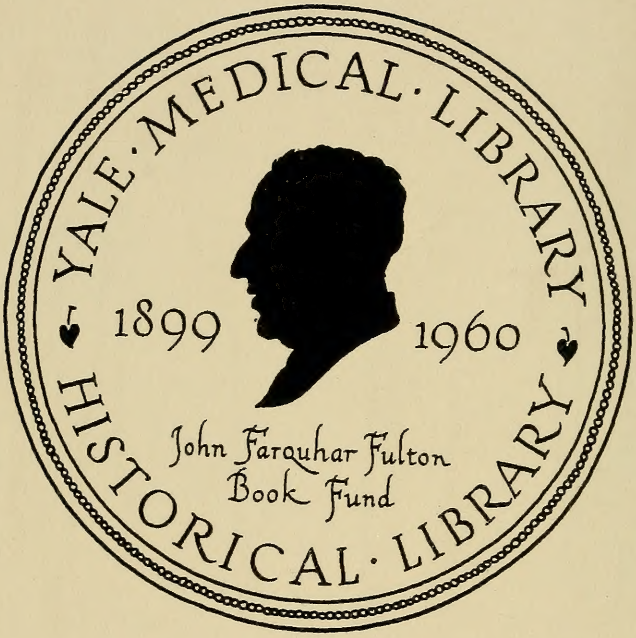
Eugenics



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Herb

Mother born

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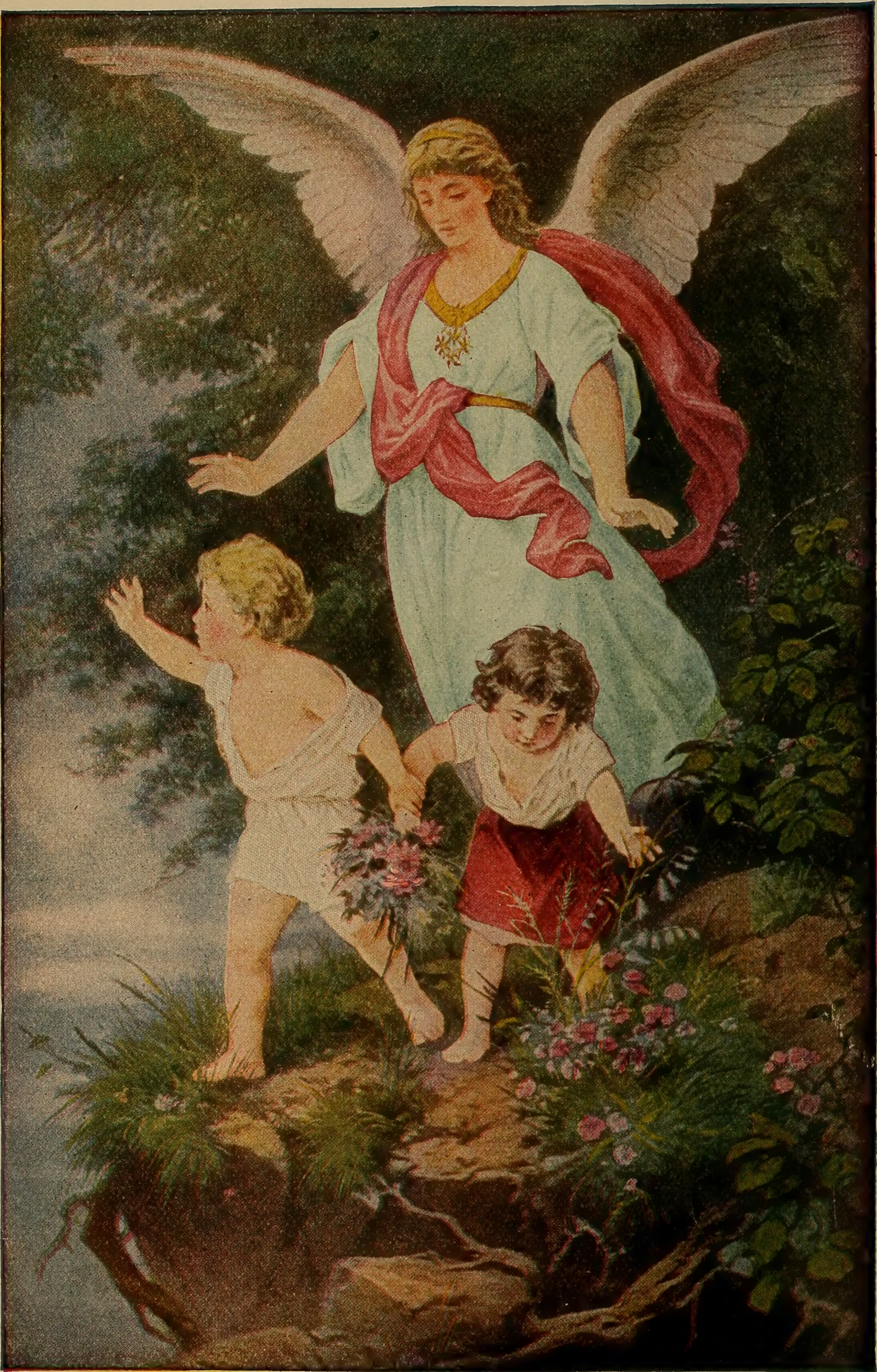

THE GUARDIAN ANGEL.

Nature's Secrets Revealed

SCIENTIFIC KNOWLEDGE OF

THE LAWS OF SEX LIFE and HEREDITY

OR

EUGENICS

**Vital Information for the Married and Marriageable of All Ages;
a Word at the Right Time to the Boy, Girl, Young Man,
Young Woman, Husband, Wife, Father and Mother;
Also, Timely Help, Counsel and Instruction
for Every Member of Every Home**

TOGETHER WITH IMPORTANT HINTS ON

SOCIAL PURITY, HEREDITY, PHYSICAL MANHOOD AND WOMANHOOD

BY NOTED SPECIALISTS

Embracing a Department on Ethics of the Unmarried
by

PROFESSOR T. W. SHANNON, A. M.
International Lecturer; Editor Eugenics Department, Uplift Magazine; President Single Standard Eugenic Movement; Author of Self-Knowledge, Perfect Manhood, Perfect Womanhood, Heredity Explained, Guide to Sex Instruction, etc.

INTRODUCED BY

BISHOP SAMUEL FALLOWS, D. D., LL. D.

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Assisted by Celebrated Specialists

PROFUSELY ILLUSTRATED

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PUBLISHER'S NOTE

Near the close of a life devoted to the study and solution of the problems of intemperance, Frances E. Willard said, "We will never solve the problems of intemperance until children are better born." She could have added with equal emphasis, "We will never solve the problems of crime, feeblemindedness, and the social evil until children are better born." We will never empty the jails, reformatories, penitentiaries and insane asylums by legislation.

The nation is at last aroused to the fact that human life, the most sacred of all life, depends upon the proper teaching of sex life and the science of eugenics.

"The spirit of society in the past and the attitude of our government," observes Prof. Shannon, the noted author who contributes an important department to this volume, has been "To protect our forests, inspect our swine and neglect our children." This attitude to the inherent right of children to be well born, is largely responsible for nearly half of the states being compelled to double the capacity of the penal and feebleminded institutions in comparative recent years.

Physical, mental and moral degenerates are increasing out of proportion to the increase of normal classes. Crime among children is increasing two and one-half times faster than among adults.

The universal demand of the day is to raise the standard of human life; to develop wise parenthood; and to fit young people for the duties and responsibilities of raising the standard of life in future generations.

Children should be taught at an early age the sacredness of the human body. Ignorance is largely responsible for immorality and the double standard of morals. The evils of ignorance in the marriage relation are so great that to encourage or even allow young people to marry without instruction is criminal. These sacred and vital truths need to be presented as a part of the general education of every child.

To properly inaugurate the true standard of social purity, we must first recognize that "The truth and facts about sex laws and hygiene are the foundation upon which this nation must build for the future."

This volume has been prepared to meet the demands of the hour. It is an answer to the call of the times; a book with a purpose. It is first of all a guide to parents to a proper knowledge of themselves, that they may in turn be prepared to instruct the younger generation intelligently: also the right word at the right time to all ages along lines of eugenics, sex hygiene, purity, health, character building and success.

This volume is sent forth on its mission of usefulness to the human race with implicit faith that it means intelligent guidance to the married and marriageable, the safeguarding of youth, wherever it goes and that thousands of homes will be made happier and brighter and the world a better place to live because of the enlightenment, help, counsel, advice, warning and instruction received from its pages.

Marietta, Ohio, April 10, 1915. THE PUBLISHERS.

INTRODUCTION

BY

BISHOP SAMUEL FALLOWS, D. D., LL. D.

"Know thyself" was the famous saying of the Athenian sage. "Manners maketh the man" was the scarcely less pregnant utterance of the great English writer and warrior. Self-knowledge, self-control and self-development with right conduct toward others are the foundation principles of this book. Its editors and compilers have gathered from the best sources the valuable information and instruction which crowd its pages. The most thoughtful men and women, who are recognized as authorities in physiology, psychology, sociology, education and the healing art, have their ripest views herein set forth.

This is a work intended primarily for the home, the true unit of human society. "God setteth the solitary in families." The husband is the "house band," the earthly giver of life, uniting the divine with the human in the supreme function of fatherhood. The wife is "the weaver," shaping and coloring in the prenatal and postnatal influences of sacred motherhood the destinies of her offspring.

To this book father and mother can go, as to a rich treasure-house for wealth of knowledge and wisdom to guide and direct their children. While the work itself may be kept from tender youth, the questions which will be asked by them, as the mysteries of being irresistibly rouse and stimulate their innocent thoughts, can be sufficiently answered from its contents by these heaven-appointed teachers of purity and truth. And just as soon as the years of maturity come, no parent can confer a greater boon upon son and daughter than to place it in their hands. "Public sentiment has heretofore decreed what shall be whispered in secret and what proclaimed from the market-tower." But an enlightened public sentiment is now demanding that, as the destinies of the future race are held by the young men and women of to-day they shall not continue in ignorance of the most fundamental facts of life, as were their fathers and mothers in the days past. Many of these parents now clearly see the shortcomings in their home training on the part of their forebears and do not intend to perpetuate them in the treatment of their own families. Would that the number of such parents were mightily increased! Would that the false modesty or thoughtlessness or indifference in this direction might come to a perpetual end!

Mrs. Mary E. Teats, the national evangelist of purity of the Women's Christian Temperance Union, forcibly and justly says: "The subject is as pure as God is pure." And with her, Marion Harland and a great and increasing host of noble men and women, in all ranks of society, heartily agree. We have learned as sociologists and penologists that ignorance is the mother of superstition, of vice, of crime, of disease and of every species of impurity. "My people perish for lack of knowledge," said Jehovah in the Old Testament. Our jails and penitentiaries and reformatories and insane asylums and institutions for the feeble-minded are filled with inmates who began the course thither because of their dense ignorance of the laws of their physical organisms. Untold wretchedness and misery have been entailed upon countless thousands of human beings from the same cause.

I wish in closing to impress anew the thought that no true knowledge of the human frame, so fearfully and wonderfully made—the masterpiece of creative wisdom, power and love—can ever lead to indelicacy of thought or action.

I again earnestly commend this volume as a brave, reverent, exhaustive and practical compendium upon the profound and far-reaching questions with which it deals.

SAMUEL FALLOWS.

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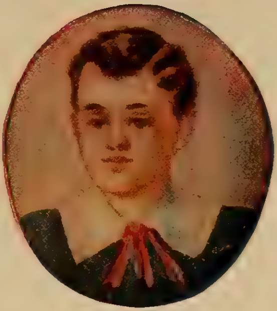
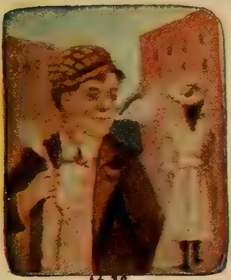
WHAT WILL HIS FUTURE BE?



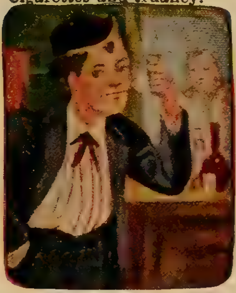
THOUSANDS of boys such as the above illustration represents are growing up in this fair country of ours. Bright, manly little fellows. How many of them through ignorance and improper training will take the course pictured on the left, wrecking their lives and breaking mothers' hearts. Will yours be one of them?

At sixteen playing truant and smoking cigarettes; at twenty-one impure in thought and deed and a saloon loafer; at thirty a thug and desperate character; and at forty-five a confirmed criminal and physical wreck.

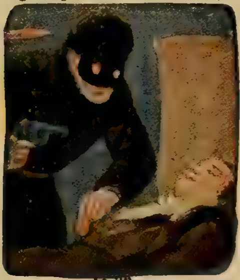
Or through Christian influence and mothers' prayers how many will be at sixteen possessed of clean habits, and studious; at twenty possessed of manly purity, and industrious; at thirty rewarded with success and manhood's best gifts; and at seventy looking back over an honorable and useful career.



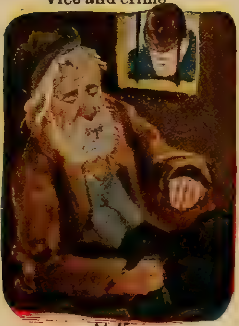
At 16
Cigarettes and truancy.



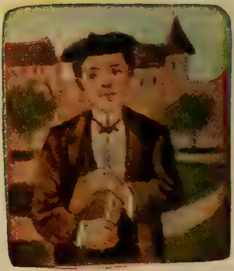
At 21
Impurity and drunkenness.



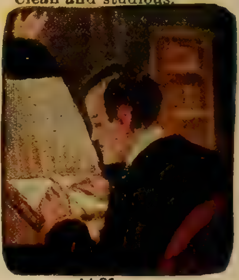
At 30
Vice and crime.



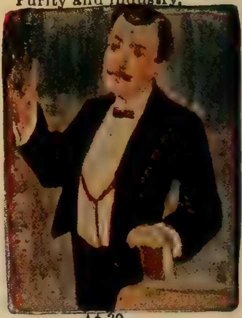
At 45
Jail-bird and degenerate.



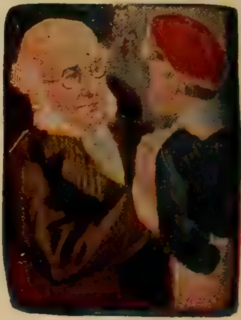
At 16
Clean and studious.



At 21
Purity and industry.



At 30
Manliness and success.



At 70
Honored and respected.

THE WIDE AND THE NARROW WAY.

CHAPTER I

LIFE AND ITS INFLUENCES

SECTION ONE—THE BEGINNING OF LIFE

Aim of this Work.—The aim of this work is to make people happier through knowledge. All people will not act, though they may know what is best and right to do. But we have a buoyant faith that many will act on learning what is best to do; not perfectly, perhaps, but sufficiently to largely improve the habits of life, and to give more peace, joy and pleasure to humanity.

Let in the Light.—The past few years have been rich in scientific discoveries, especially so in facts relating to the physiology of man and woman, and the diseases peculiar to the sexes. This information should not be kept under lock and key. The better plan is to educate the old and the young alike upon the subject of health. This should be done not only in relation to the general hygiene of life, but especially in regard to the relations of the two sexes, and the diseases and dangers which spring therefrom.

Knowledge is Safety.—If the amount of suffering, inherited and not inherited, could be fully known, thoughtful parents would be startled into activity, and would seek, as best they could, by proper study, to give the coming generation, so far as health and morals can do it, a happier lot.

The Step from Boyhood to Man's Estate.—One author says that it matters not whether a man lives to middle life or to old age, the first twenty years is the greater half of his life on earth. Perhaps if we take into consideration the *effects* of this young life as projected into the future, this may be true. Old people well know that the memories of these twenty years fasten themselves on the mind more firmly than do the memories of any or all of the future years.

Hitherto the life has been a sucker from the parent growth. The shoot which has been nourished under the shelter of the parent stem, and bent according to its inclination, is now to be transferred to the open world of opportunity, where it must take root and grow into its own strength.

Ignorance not the Mother of Purity.—A large, intelligent and respectable class in every community insist that noth-

OFF FOR SCHOOL.

ing relating exclusively to either sex should become a subject of popular medical instruction. These people are not prudes—that is, not all of them—but it is a manifestation of the spirit of prudery. Ignorance is no more the mother of purity than it is of religion. Intelligence can never work injury to him who is looking for the truth.

Ignorance, Source of Crime.—Were people generally informed of the dangers surrounding the relation of the sexes, of the dreadful results of the violation of sexual laws, of the fertile sources of crimes springing therefrom, one of the greatest blessings would come to poor, suffering humanity.

EVENING PRAYER.

Who can estimate the power and influence, either for good or bad, that may be wrapped up in an innocent child!

The familiar prayer, "Now I lay me down to sleep," taught at mother's knee, has been the means of bringing home many a prodigal son and daughter

Ignorance is, directly or indirectly, the source of most crimes and of most physical and mental suffering. The ignorance may not all be in the young bandit or the poor sufferer. Some of it, perhaps most of it, may have resided in the parents.

Millions of people are to-day sufferers, mentally, physically or morally, because of the ignorance or vicious conduct of their parents.

Beginnings, Fair and Fatal.—"Well begun is half completed," is the old proverb. A good beginning is a promise of success. We say a "promise," not an absolute assurance. Neither is a poor beginning a positive forerunner of a bad ending. But the beginning, good or bad, has a tremendous influence on the future life of a young man or woman.

Life is a Battle.—No question about that in the minds of those who have lived to ripe old age. Before the battle is won, many will say with the poet:

"The day is long and the day is hard,
We are tired of the march and of keeping guard;
Tired of the sense of a fight to be won,
Of days to live through and of work to be done;
Tired of ourselves and of being alone.
Yet all the while, did we only see,
We walk in the Lord's own company.
We fight, but 'tis He who nerves our arm;
He turns the arrows that else might harm.
And out of the storm He brings a calm;
And the work that we count so hard to do,
He makes it easy, for He works, too;
And the days that seem long to live are His,
A bit of His bright eternities; and close to our need His
helping is."

Health a Duty.—Man is not only responsible for his own health, but also for the health of his offspring. Disease, moral and physical, is entailed by disobedience to nature's laws. Evils, physical and moral, are inflicted on the descendants by the parents. Our own generation is suffering because of the bad living and conduct of preceding generations. Purity of thought and body must be taught in the home. Parents should wake up to the importance of this subject.

SECTION TWO—VALUE OF CHARACTER

Reputation and Character.—Reputation is what others think of us; character is what we are. The word *character*, in its primary meaning, signifies a *stamp*, an *engraved mark*. Character is the *stamp* of our nature, or that which marks our very being. Reputation usually flows from character, but not always. Character is fundamental; a part of us. Reputation is transitory, and may be false or true.

A good character, then, is the first object of interest to everyone who desires a good name.

A Good Name.—Who can measure the value of a good name, based on a noble character? Who shall repair it, if injured? Who can redeem it, if lost? Without it, gold has no value; birth, no distinction; station, no dignity; beauty, no charm; age, no reverence. Without it, wealth impoverishes; grace deforms; dignity degrades.

The legacy of a good name is beyond value. Rich is the inheritance it leaves; precious is the hope it inspires.

My Good Name.—"A good name is rather to be chosen than great riches, and loving favor rather than silver and gold."—Prov. 22:1. He who robs me of my property, takes what can be repaired by time and opportunity; but who can repair the ruin of a good name? He who maims my body, injures that which may be healed; but what or who can heal the wounds of slander? He who ridicules my poverty, upbraids me with that which industry may retrieve; what wealth can redeem the bankrupt character?

The Basis of a Good Name.—A business man who always meets his financial obligations is said to have a good name, and yet his character may be corrupt. A good name, when used in a moral sense, is based upon *character.* A man with a perfect character, may not, for a time at least, have a good name among his fellows. But such cases are exceptions, and come about through some misunderstanding. A good name and a pure character are two halves of the same thing. To have a good name that will stand the test when worlds are on fire, one must have an uncorrupted nature—a pure, noble character. To seek a good name without building upon character is to build upon the sand. Character first, reputation second

Fame.—"Fame is an undertaker that pays but little attention to the living, but he furnishes out their funerals and follows them to the grave."

The meaning of the word *fame* may be seen from its opposite, *in*famous. That is, one may be utterly without fame. If fame implies only notoriety, then infamous would imply only one without notoriety. But infamous means *having an odious reputation*—a positive, not a negative meaning.

Socrates said: "Fame is a perfume of heroic deeds." Shakespeare's words are: "He lives in fame who died in virtue's cause."

The Making of Character.—All life is a season of character-growing. We are left in this world, not so much for what we may do here, for the things we may make, as that we ourselves may grow into the beauty of God's thought for us. In the midst of all our occupations and struggles, all our doing of tasks, all our longings and desires, all our experiences of every kind, there is a work going on in us which is quite as important as anything we are doing with our mind or with our hands.

In the school the boy has his tasks and lessons. According as he is diligent or indolent is his progress in his studies. In ten years, if he is faithful, he masters many things and stands high in his class. Or, if he is indifferent and careless, he gets only a smattering of knowledge, with so many links missing that his education is of little practical use to him. But meanwhile there has been going on in him another education—a growth or development of character. The mind grows by exercise, just as the body does. Each lesson learned adds its new fact to the measure of knowledge; but there is, besides, an effect produced upon the mind itself by the effort to learn. It grows by exercise.

CHUMS.

Better far, form than reform character.

Quit singing, "Oh, to be nothing," and try to be something, somebody.

A man who is undergirded by the arms of the Almighty can not be crushed.

SECTION THREE—INFLUENCE OF ASSOCIATES

Character and Companionships.—General Garfield said: "I feel a profounder reverence for a boy than for a man. I never meet a ragged boy on the streets without feeling that I owe him a salute, for I know not what possibilities may be buttoned up under his shabby coat."

These words embody a truth felt instinctively by many persons of less note than President Garfield.

The Two Paths.—Oh, the possibilities wrapped up in young manhood or womanhood! Possibilities for good as high as the heavens; possibilities for evil as deep as demons can make them. Two young persons may start out on life's journey with absolutely the same or equal chances; that is, so far as outward appearances can tell us. Yet the journey's end may be as far asunder as the east is from the west.

All this difference may rest—and in many cases, does so rest—in the companionships selected by either. True, the choice of companions may, and possibly does, have its origin in the inner character of the individual.

Love the Culpable and Die with the Criminal.—"A man is known by the company he keeps," is an old adage. "Persons who walk much with the lame, learn instinctively to walk with a hitch or limp like their lame friends."

One may be ever so pure, if he associate with bad companions he will fall into bad odor. Listen! He who loves to laugh at folly, is himself a fool.

If one would rather take the lowest seat among the good than the highest seat among the profane and vulgar, he has already started on the high road to virtue and success.

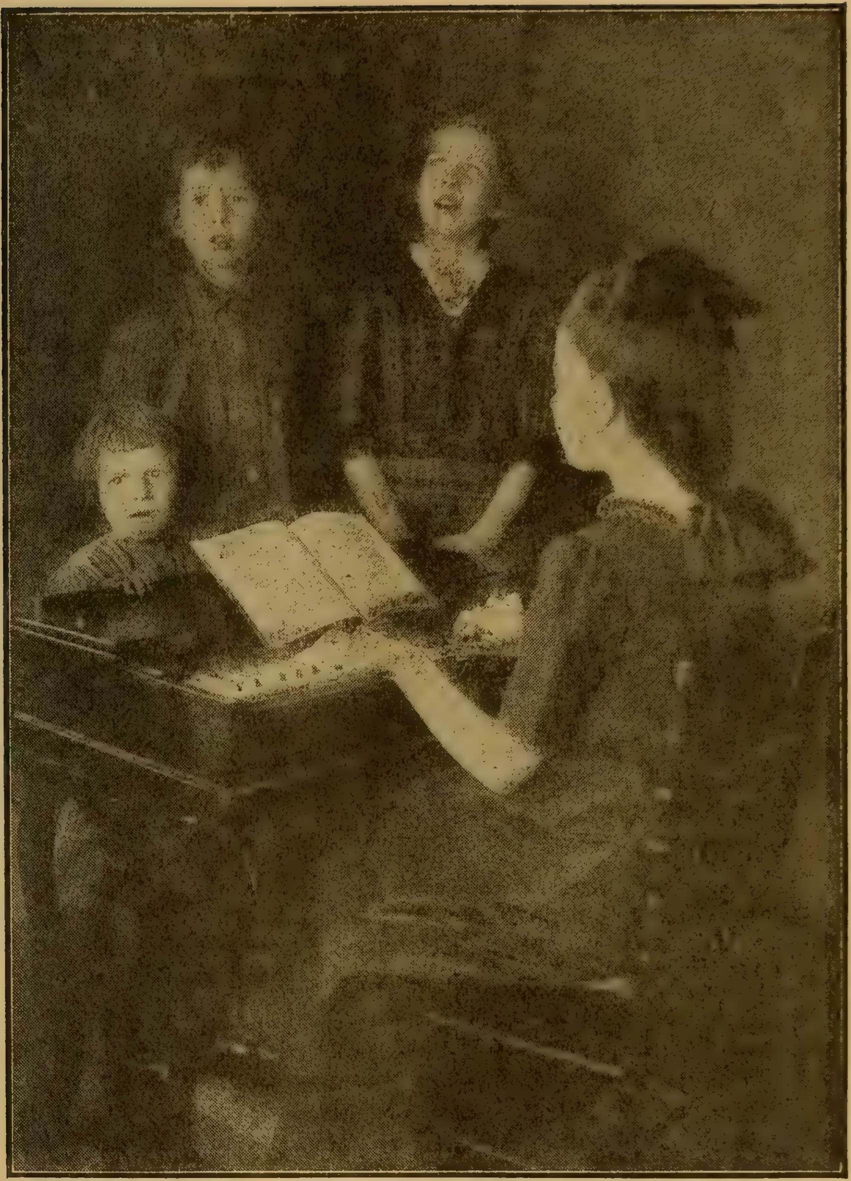
Choice of Friends.—Be careful in choosing associates and slow to change them, if of the right character. Friends should not be like old clothes, which, when we have worn threadbare, we cast off and call for new. One who often changes his friendships never has any warm friends.

Without Wax.—Many people who subscribe themselves in their letters "your sincere friend," are not acquainted with what may seem the odd derivation of the adjective *sincere*. It is from two Latin words, *sine*, without, and *cera*, wax. What such a derivation can have to do with the virtue of sincerity is rather puzzling when we first think of it, but after reflecting that one of the meanings of sincerity is *purity* and that honey from which all the wax has been strained is called *pure* honey, we seem to have rather more light on the subject. A friend whose regard for us is pure, or, to use a more suitable word, is genuine, is a friend who may be trusted. Such friends make no professions that they do not mean.

Bad Books.—One-half of the youth in our prisons and houses of correction started on their evil careers by reading bad books, or at best, worthless novels. These books are the nicotine and alcohol of literature; they poison, and burn, and blast the head and heart as surely as their cousins do the stomach.

INFLUENCE OF ASSOCIATES.

Perhaps we have all heard the story of Garfield when a boy. By reading *The Pirates' Own Book*, he was, for a time, determined to go to sea. It took all the power of will of his good mother to persuade the fatherless boy to stay on land. But



HOME INFLUENCES.

many another lad, who had no good mother to direct his path, read that same book, or others like it, and went to ruin.

Ruined by Bad Books.—An eighteen-year-old girl living in Elgin, Ill., suspected of being the writer of threatening letters received by David C. Cook, the Sunday-school literature publisher, and other persons of that city, on being arrested and tried, confessed that it had been the reading of bad books that led her into crime, and that she herself was alone responsible for the threats to blow up people and property if money was not forthcoming. No one can estimate the amount of crime and lawlessness that is directly traceable to the dime novel and other pernicious literature.

Bad Pictures.—Bad reading burns deeper than does filthy conversation, and bad pictures, perhaps, make deeper scars than do bad books. Both burn very deeply into the souls of boys and girls, young men and young women.

Dr. Leonard, a leading divine in the United States, tells of the dreadful effects of foul pictures shown him by a German shoemaker, when a boy. Dr. Leonard, like thousands of other pure men, would give his good right arm if these vile pictures could be forgotten.

SECTION FOUR—SELF-CONTROL

Virtue has its roots in the ability and disposition to govern one's self. In the absence of self-control, we have the drunkard, the libertine, the debased. The loftiest freedom is the result of perfect self-control; passions and impulses unbridled bind with the strongest chains.

Words that Sting.—James says: "If any man offend not in word, the same is a perfect man, and able also to bridle the whole body." Also, "The tongue is a fire, a world of iniquity, * * * and setteth on fire the course of nature; and is set on fire of hell."

These are the words of another: "Heaven, keep us from the destroying power of words! There are words that sever hearts more than do sharp swords; there are words the point of which sting the heart through the course of a whole life."

Strong Drink.—Through the testimony of an English writer, we learn that a large per cent. of the noted English writers of the sixteenth and seventeenth centuries were bound by the chains of intemperance.

Some of the noblest men of our own America have been wrecked in character, fortune and fame by the awful power of strong drink.

Lack of Self-Control.—The habit of strong drink arises from the lack of self-control. The lack of power to control one's self may not lie in the original character of the individual. That is

IMITATING FATHER.

to say, it may not be an inherent weakness of the character. But those nerves of ours may be so trained, humored, abused or injured by the use of narcotics in the form of alcohol or opiates, that it is not in the power of the will to control them in their demands.

Where the Real Danger Lies.—All men may easily control themselves, if they have complete command of their nerve powers. The danger, then, lies in the loss of control of the nervous system, which, of course, includes the brain fiber.

To put it in another way. A child that is permitted to have its own way; that is, not held in restraint, in time becomes master over his parents.

The nerve forces of the body are *to be* controlled. It is possible, as millions of drunkards and opium eaters can testify, for the nerves to become uncontrollable.

Total Abstinence.—Herein lies the wisdom of total abstinence from all narcotic poisons. We may be strong in our young manhood, and fear no evil. But is there any prophet that can foretell which shall ultimately be the master, the individual will or the appetities made fierce through self-indulgence?

Sexual Passions.—All that has been said in the preceding paragraphs holds good also in the other passions of the body. Which shall be master? If the passions have been indulged, if the nerve fiber has been wasted by improper use, the passions can not properly be controlled.

SECTION FIVE—HABITS

Nerve Centers of the Brain.—It is well known to physiologists that the brain has departments. Each department has its specific work to do. Each faculty of the mind and organ of the body has its own nerve center in the brain.

Carefully remove the cerebellum, without injury to the cerebrum, from a live bird, and it can still see, think, hear and move its head and body, but can neither fly nor walk. It has lost its power of locomotion.

Remove the cerebrum without disturbing the cerebellum, and the bird can walk and fly, but knows no more of what is going on around it than does a tree.

Injured Brain.—If any part of the brain of man be injured or removed, the mental or physical powers having their nerve centers in the injured part will be affected.

The cause of loss or gain of power over special organs lies in the injury or growth of the brain-cells governing these parts.

Brain Development.—Another law is that if any organ of the brain or body be used properly, it will grow in vitality and power; if not used, it will lose what power it had.

The Law of Habit.—The preacher can easily prepare and deliver his sermon; the lawyer, his brief and plea. Reverse the order. Each will find it many fold more difficult, were the lawyer to prepare and deliver the sermon, the preacher the plea to the jury

I start for the post-office; I have the choice of two routes. I have been in the habit of going one way; circumstances make it necessary for me to go by the other route. It requires an effort of the will for me to do so. Each time *habit* persistently pulls me the other way. That is to say, *habit has a physiological and a psychological basis.*

Force of Habit.—Habit may make such a well-beaten path that it may become almost impossible for the will to change a course of action or life. This is the fundamental reason why old people seldom change their politics, religion and method of life. The very nerve fiber of their bodies has been wrought into their mental and moral being.

Whether the road of habit leads upward or downward, it makes no difference; the law of habit works the same.

Carlyle says: "Habit is the deepest law of human nature. It is our supreme strength, if also, in certain circumstances, our miserablest weakness. Let me go once, scanning my way with any earnestness of outlook and successfully arriving, my footsteps are an invitation to me to go the second time the same way; it is easier than any other way. Habit is our primal fundamental law—habit and imitation; there is nothing more perennial in us than those two. They are the source of all working and all apprenticeship, of all practice and all learning in the world."

Habits Formed in Early Life.—Our real strength in life depends upon habits formed in early life. The young man who sows his wild oats and indulges in the social cup, is fastening chains upon himself that never can be broken. The innocent youth by solitary practice of self-abuse will fasten upon himself a habit which will wreck his physical constitution and bring suffering and misery and ruin. Young man and young woman, beware of bad habits formed in early life.

Good Habits.—How essential to live a well-regulated life and cultivate the best qualities! "There, that's the thing to do; go and do it." *Punctuality:* without which much time is lost and others are disappointed. *Accuracy:* without this great and serious mistakes are made which prove most hurtful and injurious to society. *Steadiness:* without this things are hurried over and nothing is done properly. *Promptitude:* without this opportunities of great importance are lost, which can never be recalled. *Habits* are the very life-blood of our existence. We may remove many things; we can cast off old clothes, leave an unhealthy house or neighborhood and forsake a disagreeable companion, but we can not so easily cast off old habits. They cling to us through life and affect our state in another world.

SECTION SIX—THE HOME AND SCHOOL IN RELATION TO CRIME

A German Author on educational subjects has recently collected and studied thirty German writers on pedagogical subjects since Pestalozzi's time, and has catalogued all the words they used in describing the faults of children. There were the astounding number of nine hundred and fourteen, far more than their virtues.

These were classified as "native and of external origin, acute and chronic, egoistic and altruistic, perverted honor, self-will, laziness, frivolity, distraction, precocity, timidity, envy and malevolence, ingratitude, quarrelsomeness, cruelty and superstition."

Causes of Crime.—We may condense the causes of crime among adolescents in the following enumeration: Heredity, bad antenatal conditions, unhealthy infancy and childhood, overcrowded slums, promiscuous herding together—in a word, *bad homes.* The statistics of every reformatory and industrial school for delinquent children show that the great majority of inmates come from this class of homes.

The Public School Defended.—Unjust aspersions have been cast upon our common-school system by the charge that they foster crime through the education imparted and from the want of moral training. But it is easy to see how the work of the teacher is hindered, when pupils, however well they may be trained in school, are subjected continually to the malign influences of evil home surroundings. It must be remembered that the average school attendance, the country through, is scarcely five years.

A Boy's School Life.—Probably the average attendance of each boy in the rural and city schools is not more than 6 months in the year. The entire schooling of the average boy would be comprised, therefore, within 30 months or 120 weeks, or about 600 school days. Reckoning 6 hours for a school day, the boy would be under direct school influence 3,600 hours. Now, during that period he is within the influence of the home, directly or indirectly, 60 months, or 1,800 days, or 43,200 hours. Deducting the 3,600 hours the boy is at school, leaves 39,600 hours. The school ratio, therefore, to the home is 1 to 11. Then take the multiplied thousands of hours for which the home is responsible outside the school years mentioned, and we see the tremendous responsibility which rests upon the guardians of the household. When the inmates of the reformatories and industrial schools are considered with relation to the number of actual days or hours in attendance upon school, as evidenced by the low grade they have attained before entrance into these institutions, the ratio of their school hours to the home hours will be 1 to 22; that is, for 1,800 hours spent in school, 39,600 will be the hours for which the home is responsible.

The French Educator Bonjean forcibly says: "We can not sterilize the bouillon of culture of the microbes of vice and crime except by wholesome parental correction."

CHAPTER II

MOTHER—HOME

SECTION ONE—MOTHER

Mother, "the divinity of infancy."
Mother, "the angel spirit of home."
Mother, "both the evening and the morning star of life."

Blessed Mothers.—Know you what especially impels me to industry? My mother. I shall endeavor to sweeten a part of her life that otherwise has been so unfortunate and lessen by my help and sympathy the great sorrows she has suffered. To her alone I owe the foundation of my mind and heart.—*Jean Paul Richter.*

George Herbert said: "One good mother is worth a hundred schoolmasters. In the home she is a loadstone to all hearts and loadstar to all eyes."

De Maistre, in his writings, speaks of his mother with immense love and reverence. He described her as his "sublime mother," "an angel, to whom God had lent a body for a brief season." To her he attributed the bent of his character and her precepts were the ruling influence of his life.

One charming feature in the character of *Samuel Johnson* (notwithstanding his rough exterior) was the tenderness with which he invariably spoke of his mother, who implanted in his mind his first impressions of religion. In the time of his greatest difficulties he contributed out of his slender means to her comfort.

Cromwell's mother was a woman of spirit and energy equal to her mildness and patience, whose pride was honesty and whose passion was love and whose only care, amidst all her splendor, was for the safety of her son in his dangerous eminence.

Curran speaks with great affection of his mother, to whose counsel, piety and ambition he attributed his success in life. He used to say, "If I possess anything more valuable than face or person or wealth, it is that a dear parent gave her child a portion from the treasure of her mind."

It was *Ary Scheffer's* mother, whose beautiful features the painter so loved to reproduce in his pictures, that by great self-denial provided him with the means of pursuing the study of art.

Michelet writes: "I lost my mother thirty years ago; neverthe-

RESPONSIBILITIES OF MOTHERHOOD.

less, she follows me from age to age. She suffered with me in my poverty and was not allowed to share my better fortune."

Napoleon Bonaparte was accustomed to say that "the future good or bad conduct of a child depended entirely on the mother." Nobody had any command over him except his mother, who found means, by a mixture of tenderness, severity and justice, to make him love, respect and obey her.

Goethe owed the bias of his mind and character to his mother, who possessed in a high degree the art of stimulating young and active minds. "She was worthy of life," once said Goethe, and when he visited Frankfort he sought out every individual who had been kind to her and thanked them all.

Grandmother's Birthday.—Honor the dear old mother and make your love plain to her. Doubtless she is the object of much tender love and holy reverence. But have you manifested your affection as plainly as you should? You feel a worthy pride in her long and useful career. But to her own retrospect, life's history is largely a record of failure; of efforts defeated and anticipations unfulfilled. She needs encouragement. Let her hear the praise that you feel she deserves. It will not make her vain, but may give her needed comfort. Let her have all the help of all sorts that love can bring her.

A lady who spent some time among the peasants of the Tyrol, writes the following:

"The morning after our arrival we were awakened by the sound of a violin and flutes under the window, and hurrying down found the little house adorned as for a feast—garlands over the door and wreathing a high chair which was set in state. The table was already covered with gifts, brought by the young people whose music we had heard. The whole neighborhood were kinsfolk, and these gifts came from uncles and cousins in every far-off degree. They were very simple, for the donors are poor—knitted gloves, a shawl, baskets of flowers, jars of fruits, loaves of bread; but upon all some little message of love was pinned. 'Is there a bride in the house?' I asked of my landlord. 'Oh, no,' he said. 'We do not make such a bother about our young people. It is grandmother's birthday.'

"The grandmother, in her spectacles, white apron and high velvet cap, was a heroine all day, sitting in state to receive visits and dealing out slices from a sweet loaf to each one who came."

A Pathetic Incident.—It was at the Grand Central station, and we were waiting for a train. Near us, in the waiting-room, sat an old lady, dressed in the deepest mourning; a young woman sat at her side, who was evidently her companion in the journey.

"Don't you think we had better telegraph Mary that we are here?" the old lady asked. "It seems so strange that she hasn't come to meet us; maybe she didn't get the letter."

But just at that moment a lady approached the new comers. It was very warm, and from her appearance it was evident that she had made a hurried trip to the station. She was not glad to see these travelers, however, for her welcome was anything but cordial.

"We thought maybe you didn't get the letter about our coming," the old lady said.

"Yes, I got it this morning, but I've been running all over the neighborhood to find you a room, and I'm about sick over it. Whatever possessed you to come to the city in this hot weather, mother? We haven't a place for you in our flat, and they can't possibly have you at ——'s, with their four children. I don't see why you ever let her come here!" This with a glance of disapproval on the young woman.

"She was determined to come, Mary, and besides, I don't see how I can keep her this summer, with all those city boarders."

"What have you got in all those bundles, mother?" the first speaker asked, in an unpleasant tone of voice, as her eye fell on several large bundles lying at the old lady's side.

"Clothes," she answered, in a trembling voice.

"I'm surprised that you should have allowed her to bring all that old truck. Where is she going to put it, I'd like to know!" This to the young woman.

"Well, what could I do about it, Mary? She would bring all her things with her."

They Didn't Want Her.—"Now, I'll tell you, mother, just what we think best for you to do. As soon as I got your letter I had John telegraph to N—— to see if they could take you in there, and G—— said they could make room for you for a few days, but not any longer. And we all think the very best place for you to go is to an old ladies' home somewhere, a real nice one, of course, where you could have your own room and every comfort. You see you are too old to be running about the country, and too old to be of any use now to anybody anywhere. Don't you think that is the best thing you can do yourself?"

By this time the old lady was shaking violently and great beads of perspiration stood out on her forehead. The plan had been sprung upon her in such an unfeeling manner!

The station was crowded with people in the vicinity of this scene and the faces of the listeners looked horrified. The people who had been obliged to witness this meeting at the station were all in sympathy with the poor old mother, their hearts went out to her and they looked tenderly toward her.

It was our train time and we had to go, and do not know what was done with "mother," but as we passed we heard the old soul timidly ask: "How is John?" and the answer: "Oh, he is well, but of course he could not leave his business to come up here in the middle of the day to meet you."

The pitiful, disappointed, distressed look on that poor old mother's face has been before us ever since we saw it that day in the station.

A Better Way.—We know nothing of the circumstances of the case, only as we judged from the conversation we heard. But we know that those younger, stronger women, who evidently did not wish the burden of the care of their own mother, or their husband's mother, did a most cruel wrong in the manner they treated the one who had done her work in life and by reason of age and feebleness could not be of use to them longer. Oh, the pity of it all!

Passing to the outgoing train with a dear child at hand to see that mother got off all right and had all the comforts necessary for the journey, we thought how thankful mothers ought to be for good, thoughtful, loving children, children who do not feel that they have no room for mother, but who are always glad to have her come to them, and always sorry to have her go away.

Mother's Leisure.—The following little picture, as painted by Emma A. Lente, has many things in common with our own dear home. Let us all learn the lesson herein given before it is too late.

The members of the family, from youngest to oldest, would have been astonished had anyone suggested that they were cruel or even hard to mother. They loved her dearly, of course; they loved her better than anyone else in all the world.

Who but mother could know the place and the time and the how of everything, wait on everybody in health as well as in sickness, and keep all the intricate machinery of the household in smoothly running order?

The busy father trusted all domestic matters to her; he even brought her some of his business worries. The grown daughters dusted the parlors, watered the plants and fed the canary. Then perhaps some of the girls happened in, or there was something to go to, and they hurried away, oblivious of the fact that the dressmaker was in the house, or that there were visitors; whatever extra burdens came in the way were allowed to fall upon mother's shoulders as a matter of course.

The big boys—loving, thoughtless fellows—had not lost their dependence on her, and zealously she looked after their comfort, their studies, their play and their friends. Often they had their own invited company in the house.

Leagues and clubs and guilds called the young people here and there, until there seemed hardly time enough for everything. But always there was one at home to attend to the fires and lights, rearrange the littered rooms, prepare luncheon, and set all matters in order for the night and early morning. That one was mother.

The smaller children came to her, as a matter of course, with everything that interested them—questions, disagreements, problems, requests and hurts. She had wisdom to solve and to guide, patience for the endless questions, puzzles and hard knots, and arnica, court-plaster and kisses to heal the hurts and dry the tears.

She was willing to do all this—how willing! But as time went on she grew very tired—tired in body and brain and soul.

A Sad Change.—Finally, a morning came when mother had nothing to do. There was breakfast, and after that the dishes; the children to get off to school, the house to be put to rights, and the dinner to plan and cook; but she was as far removed from the care and anxiety and labor of it as if she were removed to another world.

"Complete collapse! Worked and worried to death!" said the indignant old doctor.

"But she will live! O doctor, say that she will live!"

"Can't say! Shouldn't think she'd want to! But we'll fight for her life to the last breath; you may be very sure of that!"

The members of the family, shocked and stunned, gazed wildly at each other. As soon expect the clock to go without its mainspring as that household to go on without its caretaker, its burden-bearer, its manager and chief.

They wandered about with helpless hands and questioning hearts, pondering and resenting the old doctor's impatient words; but as days and nights went by, and one or another was forced to take up the details and cares of daily existence, they came to understand what heavy burdens had been laid upon the frail, shadowy being who lay upstairs in that darkened room, where a footfall, or even a whispered word, set all the unstrung nerves a-quiver.

At last, slowly, the tide of life swung backward; each day there was a little gain. With the first strength came the question: "How do you get along without me? Oh, I must hurry to get well."

"She must go away," said the doctor. "Only in a sanitarium will she have a chance to get well."

And in that refuge, where leisure was the only occupation, and where only faint echoes of the busy world of toil and care could come, the mother became well again. During the long months of waiting she and her family had time for meditation. She discovered that she, too, had erred; but it was through the intense love that thought no sacrifice too great if she could but serve her loved ones. She had fairly merged her own personality into theirs, had given up her rights to uphold their least desire. And they, who loved her most, had allowed her to do it year after year.

A Happy Return.—When she returned, it was like a queen coming into her kingdom, with loyal subjects to do her honor and bid her welcome. And such a bright, orderly house she found! Her own room was newly decorated and furnished. Heretofore, when new furniture was bought it went into the girls' room or the guest chamber, and mother took the old articles.

But here was a new easy-chair beside a pleasant window, a table with books, magazines and flowers, and many voices assuring her of leisure in which to enjoy her new lease of life and love.

It was not a vain promise. Mother has time now to read, to pick out her half-forgotten music, and even to see a morning caller. And the household machinery does not stop, for several heads and several pairs of hands are planning and doing; and nothing in that house is so jealously guarded as mother's hours of leisure.

We Remember Mother.—"There is no velvet so soft as a mother's lap, no rose so lovely as her smile, no path so flowery as that imprinted with her footsteps." These words spoken by Bishop Thompson, express the feeling of universal human nature. Men and women frequently forget each other, but everybody remembers mother.

MOTHER: ETERNITIES CAN NOT OUTWEIGH HER INFLUENCE.

Nature has set the mother upon such a pinnacle, that our infant eyes and arms are first uplifted to it; we cling to it in manhood; we almost worship it in old age.

The Divinity of Infancy.—The mother takes man's whole nature under her control. She is the "Divinity of Infancy." Her smile is the sunshine, her words the mildest law of childhood, until sin and the world have steeled the heart.

Mother's Influence.—So intense is the power of motherhood, that the mere remembrance of a praying mother's hand laid on the head of infancy, has held back many a son from guilty acts when passion had grown strong.

The Hand that Rocks the Cradle Rules the World.—Every woman in becoming a mother takes a higher place in the scale of being. A most important work is allotted her in the economy of nations. Mothers constitute the only universal agent of civilization. Nature has placed in her hands both infancy and youth. The vital interests of America hang largely upon the influence of mothers. We say "largely," because we would not fail to give proper credit to other influences. The public schools are the great assimilative force of the nation. But even back of the public schools is the mother's influence.

Mothers of Great Men.—It seems to be nearly a universal rule that great men had mothers superior in character and intellect.

Sir Walter Scott's mother was not only a superior woman, but a great lover of poetry and painting.

Byron's mother was talented, but proud and ill-tempered.

Napoleon's mother was noted for her beauty and energy.

John Wesley's mother was a remarkable woman. She is known as the "Mother of Methodism."

The mother of Washington exercised a commanding influence in moulding the character of that great man. The world still delights to honor the name of "Mary, the mother of Washington."

SECTION TWO—HOME

Definitions of Home.—A prize was offered recently by the London *Tit-Bits* for the best answer to the question, "What is home?" Here are a few of the answers which were received:

"A world of strife shut out, a world of love shut in."

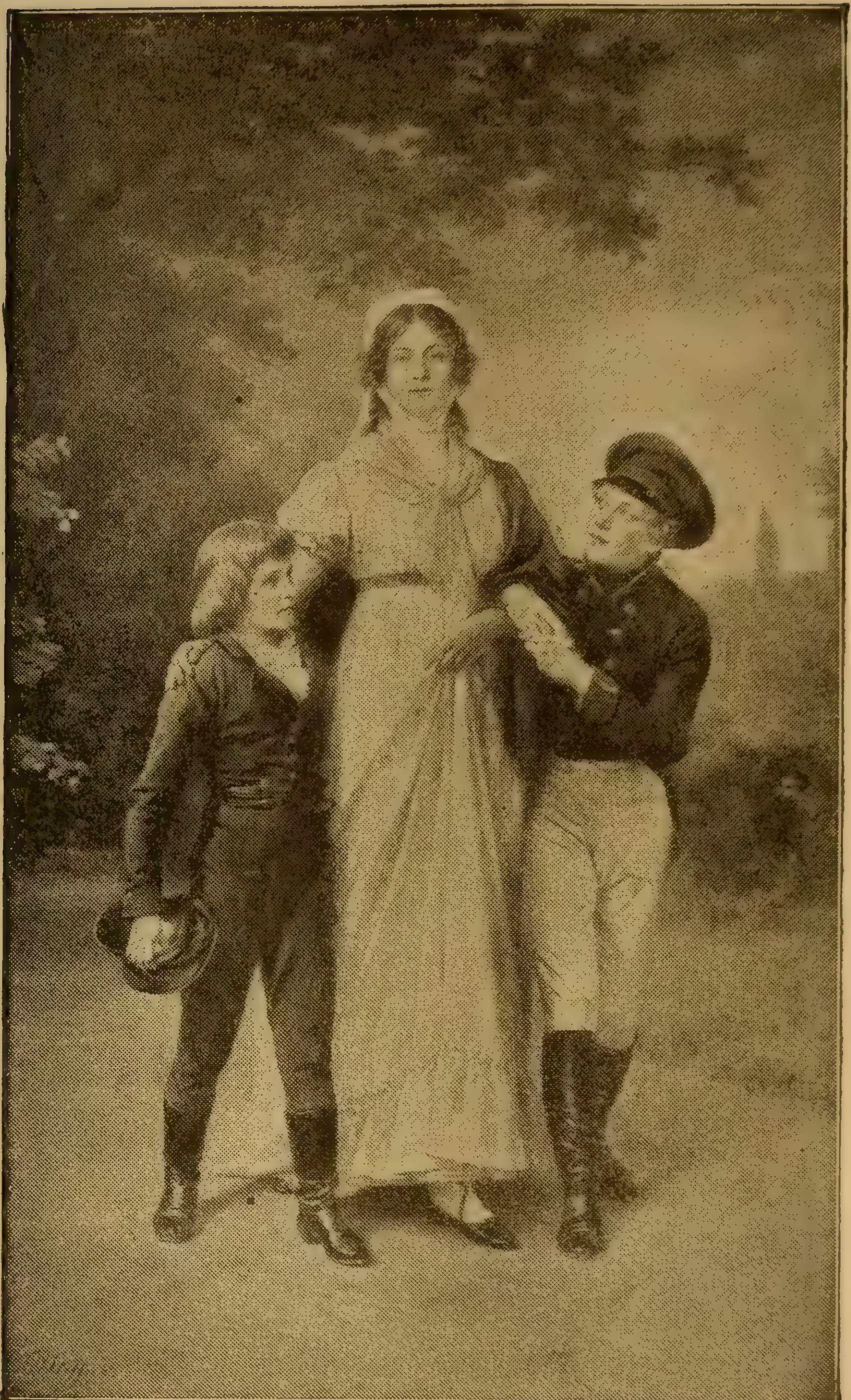
"Home is the blossom, of which heaven is the fruit."

"The golden setting, in which the brightest jewel is 'mother.'"

"The father's kingdom, the children's paradise, the mother's world."

"The center of our affections, around which our heart's best wishes twine."

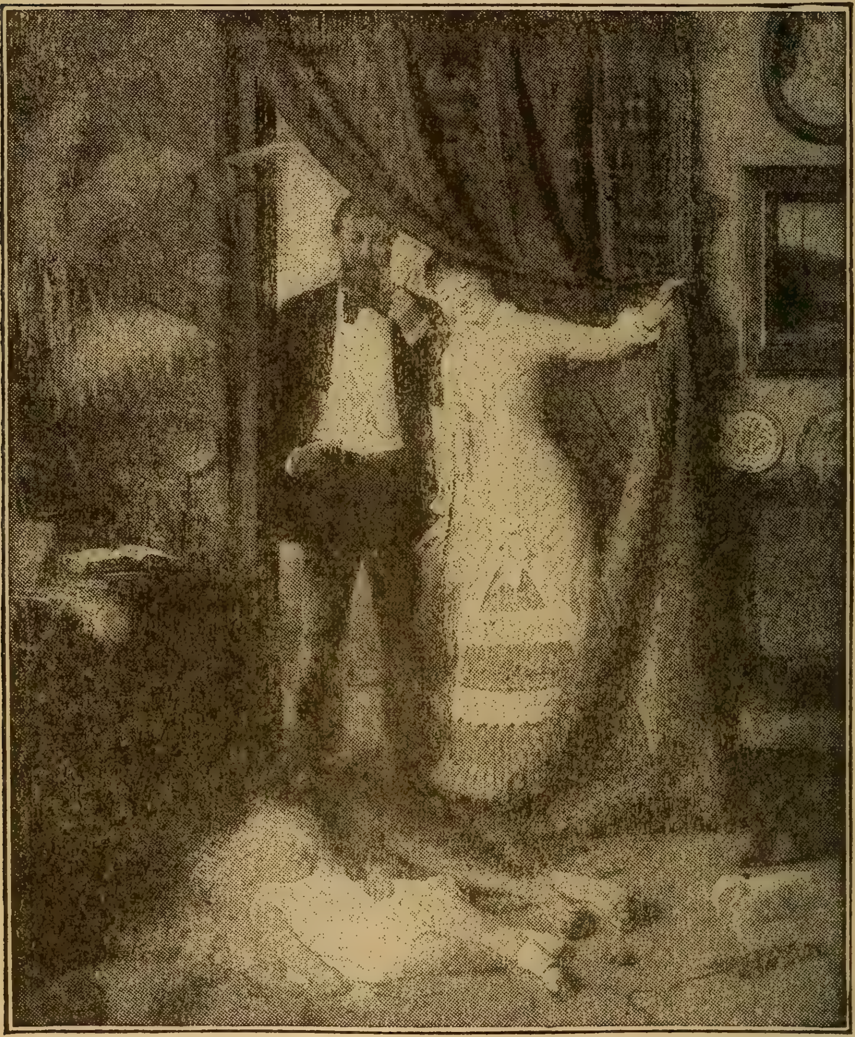
"The jewel-casket, containing the most precious of all jewels —domestic happiness."



QUEEN LOUISE AND HER SONS.

"A little hollow scooped out of the windy hill of the world, where we can be shielded from its cares and annoyances."

"The central telegraph office of human love, into which run innumerable wires of affection, many of them extending thousands of miles, but never disconnected from the one great terminus."



A HAPPY HOME.

"The only place on earth where the faults and failings of humanity are hidden beneath a mantle of charity."

"The place where one is treated best and grumbles most."

Home Hints.—As the boys grow up *make companions* of them, then they will not seek companionship elsewhere.

Let the children make a *noise sometimes;* their happiness is as important as your nerves.

Respect their *little secrets;* if they have concealments, worrying them will never make them tell and patience will probably do the work.

Allow them, as they grow older, to *have opinions* of their own; make them individuals, not mere echoes.

Remember that without *physical health* mental attainment is worthless; let them lead free, happy lives, which will strengthen both mind and body.

Bear in mind that you are largely responsible for your child's *inherited character* and have patience with faults and failings.

Talk hopefully to your children of life and its possibilities; you have *no right to depress them* because you have suffered.

If you have *lost a child*, remember that for the one that is gone there is no more to do; for *those remaining*, everything; hide your grief for their sakes.

Impress upon them from early infancy that *actions have results* and that they can not escape consequences even by being sorry when they have acted wrongly.

Teach boys and girls the actual *faults of life*, as soon as they are old enough to understand them, and give them the sense of responsibility without saddening them.

Home, Mother's Empire.—The queen that sits upon the throne of home, crowned and sceptered as none other ever can be, is—mother. Her enthronement is complete, her reign unrivaled, and the moral issues of her empire are eternal. "Her children rise up, and call her blessed."

Rebellious at times, as the subjects of her government may be, she rules them with marvelous patience, winning tenderness and undying love. She so presents and exemplifies divine truth, that it reproduces itself in the happiest development of childhood—character and life.

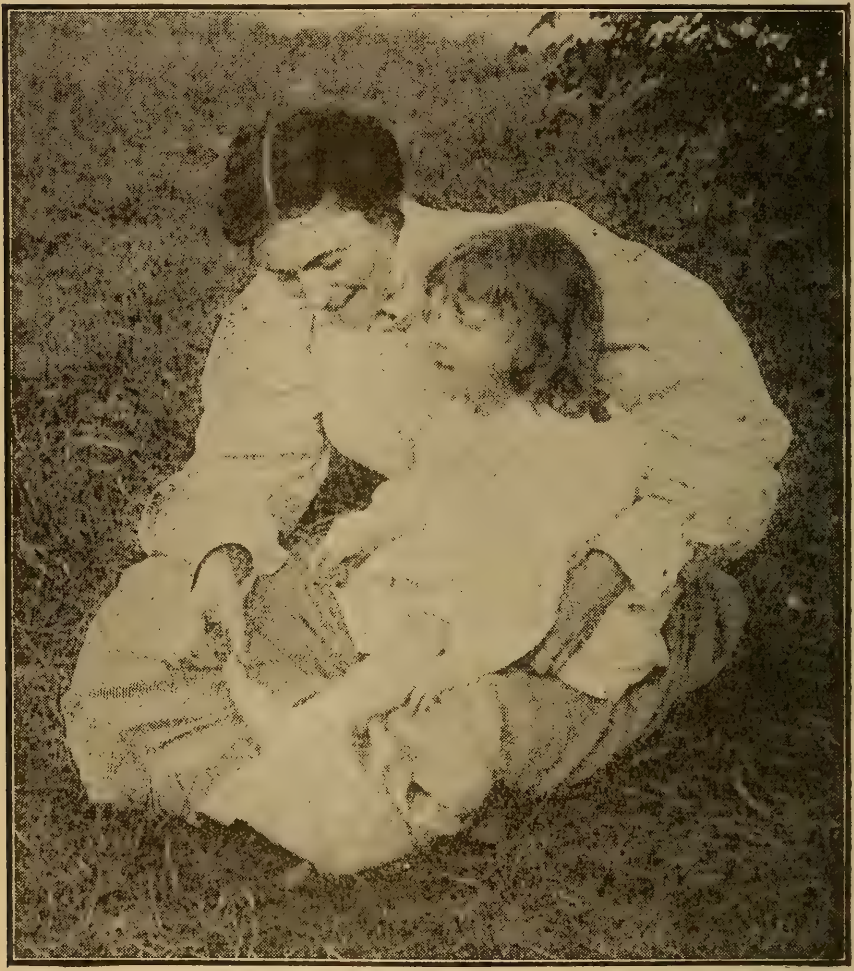
Her memory is sacred while she lives, and becomes a perpetual inspiration, even when the bright flowers bloom above her sleeping dust. She is the incarnation of goodness to the child, and hence her unlimited power. Scotland, with her well-known reverence for motherhood, insists that "an ounce of mother is worth more than a pound of clergy."

Napoleon cherished a high conception of a mother's power, and believed that the mothers of the land could shape the destinies of his beloved France. Hence he said in his sententious, laconic style, "The great need of France is mothers."

Memories of Home.—There is one vision that never fades from the soul, and that is the vision of mother and of home. No man in all his weary wanderings ever goes out beyond the overshadowing arch of home.

Let him stand on the surf-beaten coast of the Atlantic, or roam over Western wilds, and every dash of wave and murmur of the breeze will whisper, *home*, sweet home.

Set him down amid the glaciers of the North, and even there thoughts of home, too warm to be chilled by the eternal frosts, will float in upon him..



THIS PIG WENT TO MARKET.

Let him rove through the green, waving groves, and over the sunny slopes of the South, and in the smile of the soft skies, and in the kiss of the balmy breeze, home will live again.

A Heavenly Home.—Fathers, mothers, let the home go with your children to Jesus—let it go with them at every step, to cheer them in every struggle, until from the very crest of the cold wave that bears them from you forever, they shout back their joy over a home on earth, that helped them to rise to a home in Heaven.—*Rev. H. H. Birkins.*

Home and Hope.—If a young man be faithless to his mother, he will, doubtless, have but little respect for his wife and children.

Young men and young women whose love entwines itself around home and mother, can be safely trusted under adverse circumstances.

When young people, going out into the labors, trials and anxieties of life, still turn to their home and mother for consolation, it is evident that the sweet aroma of home influences still lingers about them.

Home Defined.—

Home's not merely four square walls,
Though with pictures hung and gilded:
Home is where affection calls,
Filled with shrines the heart hath builded!
Home! go watch the faithful dove,
Sailing 'neath the heaven above us;
Home is where there's one to love!
Home is where there's one to love us!

Home's not merely roof and room,
It needs something to endear it;
Home is where the heart can bloom,
Where there's some kind lip to cheer it!
What is home with none to meet,
None to welcome, not to greet us?
Home is sweet—and only sweet—
When there's one we love to meet us!

SECTION THREE—THE YOUNG WOMAN

A Young Woman's Influence.—Has she any? She has, for good or evil, and it reaches far. No angel in heaven can influence man as woman can.

Influence depends on many things—the subtle magnetism of kindness, the persuasive force of a soft and gentle voice, the witchery of smile and song and laugh and the thousand nameless things that speak the lady. These are possible to all. In thinking of your influence, worry not over the powers God forgot to give, but use His gifts. Find your sphere. The lichen loves the rock, the trillium the woods, the fern the mossy, shady nook; each has her sphere. So, sister, God meant *thee* for some special nook. Find it.

Some girls have no influence with girls, because they keep

WILL HE NO' COME BACK AGAIN?

all their smiles and kind words for men. *Don't forget your sisters;* they need you. Your influence should reach both men and women.

Don't be too pliable. Duty never bends. It seems natural for womanhood to yield, and difficulty may often be evaded by surrender, but only at the cost of influence; for men have no respect for a human eel.

Speak kindly. A censorious tongue is a perpetual scourge, but kind words heal wounds. Goodness is greater than smartness.

In your work for God you will often blunder. *Don't worry too much* over your blunders, but learn from them. Be cheerful. Brightness attracts. Even the fish follows the gleam of bright metal. Solemnity is no sign of godliness. The owl is no better than the robin.

Don't try to please everyone. It seems hard for sixty to sympathize with sixteen, and you will have some critics. Be yourself—natural, modest, kind, earnest, godly. Some will dub you slow, some declare you fast; but you have only one Master; please Him.

Try to forget yourself and remember others. Be not anxious to know many people, but to help those you do know. Try not so much to extend your influence as to strengthen it.

Shun questionable company. Remember, wealth is no surety for character. Gilded sin is not holiness, and the world knows it. Keep good company or none.

Be sincere. Do not say all you mean, but mean all you say. Perfection may be impossible to men, but we can at least be true.

Let dress and speech, song and prayer, clasp of hand and glance of eye be all expressions of your sincere desire to please your God and serve your brother.

Sam Jones Asks a Question.—Sam Jones asks this pertinent question: "Do you know that boys are more particular whom they go with than girls? You may think it a strange statement, but it is so. A girl will go on the streets in open day with a boy that gets drunk, but the minute a boy finds out that a girl gets drunk he won't go with her. I wish our girls would be as particular with whom they go as the boys are."

Beautiful Things.—

Beautiful faces are those that wear—
It matters little if dark or fair—
Whole-souled honesty printed there.

Beautiful eyes are those that show,
Like crystal panes where heart-fires glow,
Beautiful thoughts that burn below.

Beautiful lips are those whose words
Leap from the heart like songs of birds,
Yet whose utterance prudence girds.

Beautiful hands are those that do
Work that is earnest and brave and true,
Moment by moment the long day through.

Beautiful feet are those that go
On kindly ministries to and fro—
Down lowliest ways, if God wills it so.

Beautiful shoulders are those that bear
Ceaseless burdens of homely care
With patient grace and daily prayer.

Beautiful lives are those that bless—
Silent rivers of happiness,
Whose hidden fountains but few may guess.

College Bred Women.—Anna R. Brown, in discussing the subject of college-bred women, has this to say: "Very few lives are free—free to go and come, travel, read, study, write, think, paint, sing, at will. In the lives of most women these gifts are an aside in life, as it were, an underbreath. Most of us are beset with loving calls of toil, care, responsibility and quiet duties, which we must recognize, heed, obey.

"We must love our mothers more than Greek dialects. If the instinct of daughter, sister, wife or mother dies out of a college-bred woman, even in the course of a most brilliant career otherwise, the world will forget to love her; it will scorn her, and justly. If she does not make her surroundings homelike wherever she is, whether she be teacher, artist, musician, doctor, writer, daughter at home, or a mother in her household, and if she herself is not cheery and loving, dainty in dress, gentle in manner, and beautiful in soul as every true woman ought to be, the world will feel that the one thing needful is lacking—vivid, tender womanliness, for which no knowledge of asymptotes or linguistics can ever compensate. It is better for a woman to fill a simple human part lovingly, better for her to be sympathetic in trouble and to whisper a comforting message into but one grieving ear, than that she should make a path to Egypt and lecture to thousands on ancient Thebes.

CHAPTER III

ETIQUETTE

SECTION ONE—GENERAL HINTS AND HELPS

Be sure to send a note of thanks for a gift received, at the *earliest possible moment.* Write it before your ardor cools. Make it hearty, spontaneous, enthusiastic. You need not be insincere. Even if you do not like the gift, you must like the spirit that prompted it. Never defer writing with the idea that you will thank the giver in person. You may do that as well when opportunity offers, but do not risk delay. Nothing is more discourteous than belated thanks.

It is never the proper thing to ask the loan of costly volumes, or of books which belong to sets, but you may request a friend's permission to look at them in her house.

Nothing so jars upon all one's instincts of propriety and so shocks one's sensibilities as to see or hear a girl show a *lack of respect and deference to her mother*—except when the affront is offered to her father. Those who so err should be made to feel the smart of general disapprobation.

Nothing is lovelier than *the sweet, simple life of a home daughter.* You need no wider career than you have, my dear girl.

It is a question to be decided for individual cases *whether or not one is privileged to attend a church wedding uninvited.* If, beyond question, it be ascertained that no *presentation cards have been inclosed with the invitations*, if there will probably be plenty of room in the church, and one has a *personal interest* in the *bride*, there *may be no objection to entering the church*, taking an inconspicuous seat and following the service with reverent observance.

Unmarried ladies are presented *to married* ladies.

When *two ladies are introduced* they shake hands.

Young ladies simply *bow* when they are introduced to *unmarried men.*

A *lady* may *present another lady* at the *house* of a *friend*, but it is better to allow the hostess to do it.

Ladies may pass without recognition a *gentleman* acquaintance on the street, but it should be carefully done, and never without good cause.

SECTION TWO—ETIQUETTE OF CALLS

In recognition of a wedding invitation, if unable to attend the reception, one sends cards to the *bride's parents*—they being the hosts—and calls *within a month* after the marriage upon the *mother* of the bride, and upon the *bride herself* when it is known where she may be found. *A wedding announcement* is sent but to acquaint one with the fact of the marriage. and the *only acknowledgment* required is a *call* upon the *bride and her mother* during the season.

There is sometimes a little embarrassment about *who shall make the first calls. Residents call first* upon those newly arrived. *Brides* are always shown the attention of a call before they are expected to pay any visits, as are also persons of note and prominence and those in delicate health. *First calls should be returned*, when possible, *within a month* at farthest.

When calling upon a friend, and others come also to see the hostess, do not rise at once to make your adieux. Wait a few moments and then rise while you are the speaker, taking leave first of your hostess and then of her friends. You should shake hands with the former, but merely bow with graciousness to the others. But the caller who *arrives first should leave first.*

A call or card must be returned for every call or card received.

A call must be made after every invitation to a dinner, or other formal entertainment.

After a *visit of ceremony*, a *return call* should be made within ten days.

If the person called on is *not at home*, a *card* should be *left* with the address and day at home of the caller.

Men and women of note, or people in poor health, should receive the first call.

The hours of calling are from three to six for people who have no special day for receiving.

Ladies, in paying calls, should leave their cards. It is wrong to leave or give name verbally to servants, as they are liable to make a mistake in repeating it.

When calling on a person in a *hotel* or a *boarding-house*, it is customary to *stop* in the *parlor* and to *send* your *card* to the *room.*

If the *room* seems *crowded*, do not *prolong* your *stay.*

Use cards having nothing on them but the name and address of the caller.

Ladies should *appear* in *simple dress.*

The *time* should *be brief*, say from ten to twenty minutes.

Ladies are not expected to *remove bonnet or wraps.*

The *hostess* should not *keep callers waiting.* It is better to see them in morning dress than to make elaborate toilet while they are waiting.

Do not resume your seat after rising to depart.

Do not walk about the room, while waiting for your hostess, examining books, pictures and furniture.

Do not prolong your stay until meal time.

Do not place your chair so as to *turn your back toward* anyone in the room.

SECTION THREE—ETIQUETTE OF VISITING

Never pay visits on a general invitation. Wait for something more specific. Should one person really desire a visit from another, she will extend an unmistakable invitation.

When a visit is contemplated, it is best to inform friends in advance of the precise time of your arrival, and not attempt a surprise.

When friends are coming to visit you, relieve them of all care about their baggage on their arrival, by taking charge of checks, etc.

The hostess should share the meals of a guest, however irregular; but a polite guest will conform, as closely as possible, to the customary meal hours. When staying with friends, study to disturb their domestic arrangements as little as possible.

It is a correct thing, after breakfast, to leave visitors largely to their own devices, unless some special arrangement has been made. But the hostess should introduce her visitors to the piano, portfolios, library—any devices for passing the time pleasantly. And the visitors should accept this hint and leave their hostess' morning hours for imperative domestic duties.

When visitors have other friends in the city it is a kindly courtesy to inform these of their presence in your house, and invite them to call, or dine, or take tea, during the visit.

It is grossly impertinent and rude to question a child or servant about family affairs.

Never entertain visitors with an account of your servants' shortcomings.

It is extremely rude to make invidious comparisons between the house in which you are visiting and other homes with which you may be acquainted.

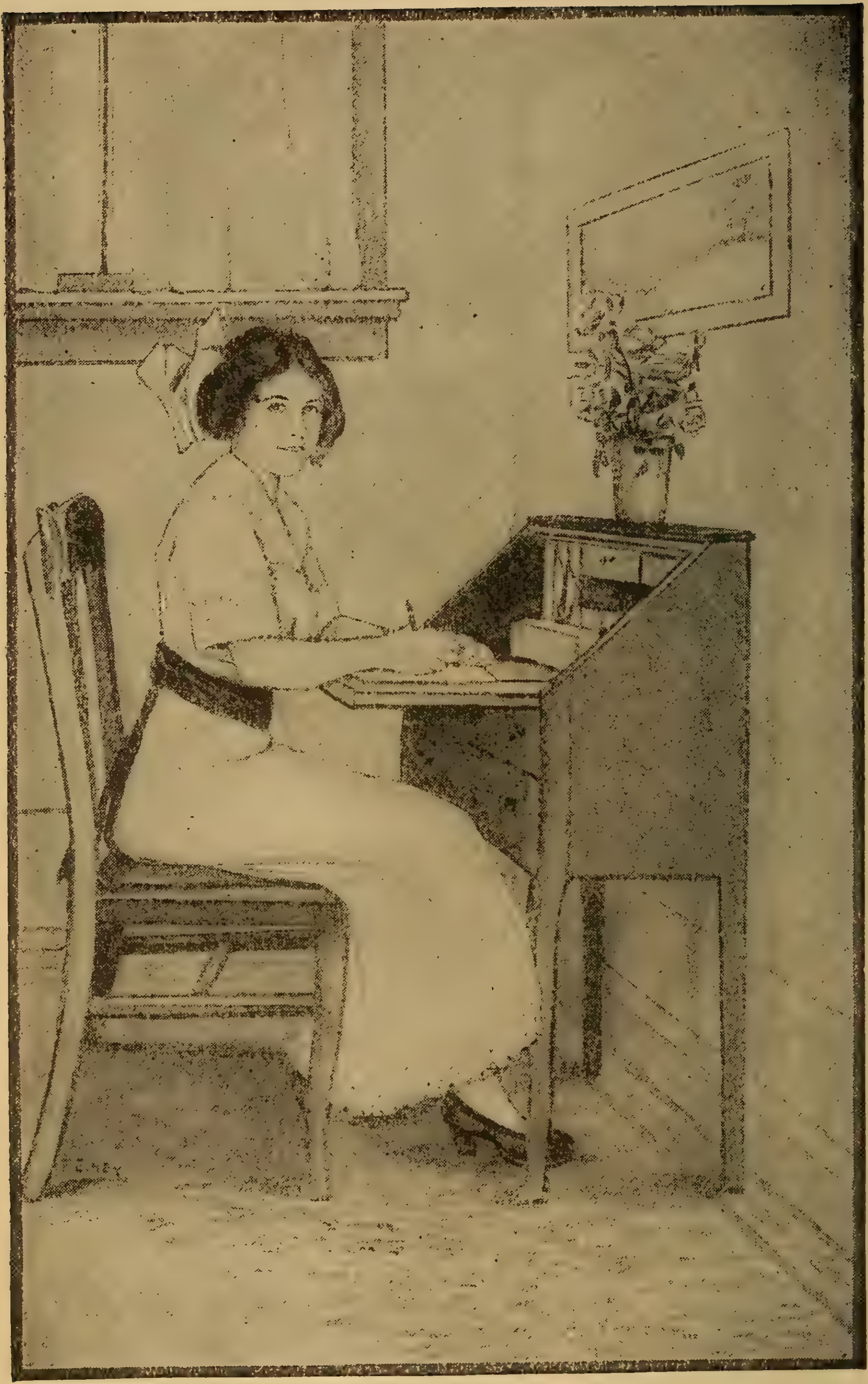
Do not trespass on the good nature of your friends by taking children with you uninvited.

When so unfortunate as to break or injure any article of furniture when visiting a friend, have it repaired or replaced at once at your own expense.

Do not invite your friends who call to remain for meals, but leave that wholly to the discretion of your hostess.

SECTION FOUR—GOOD BREEDING

The Charm of Conversation.—In conversation, be considerate of others. Have courage to ask questions, courage to expose



THE SWEET GIRL GRADUATE.

your own ignorance. This is the instruction given by Prof. J. P. Bates. The great gain is, not to shine, not to conquer your companion—then you learn nothing but conceit—but to find a companion who knows what you do not; to tilt with him and be overthrown, horse and foot, with utter destruction of all your logic and learning. There is defeat that is victory.

The Law of the Table is a respect to the common soul of all the guests. Everything is unseasonable which is private to two or three or any portion of the company. Tact never violates for a moment this law, never intrudes the orders of the house, the vices of the absent, or a tariff of expenses, or professional privacies; as we say, we never "talk shop" before company.

The Law of the Parlor.—Lovers abstain from caresses and haters from insults, while they sit in one parlor with common friends. Let conversation be adapted skilfully to the company engaging in it. Some men make a point of talking commonplaces to all ladies alike, as if a woman could only be a trifler. Others, on the contrary, seem to forget in what respects the education of a lady differs from that of a gentleman. You can not pay a finer compliment to a woman of refinement and *esprit* than by leading the conversation into such a channel as may mark your appreciation of her peculiar attainments.

Other People's Business.—Remember that people take more interest in their own affairs than in anything else which you can name. If you wish your conversation to be thoroughly agreeable, lead a mother to talk of her children, a young lady of her particular talent, an author of his forthcoming book, or an artist of his exhibition picture. Having furnished a subject, you need only listen, and you are sure to be thought not only agreeable, but thoroughly sensible and well-informed.

Tone of Voice.—There is a certain distinct but subdued tone of voice which is peculiar to only well-bred persons. A loud voice is both disagreeable and vulgar. It is better to err by the use of too low than too loud a tone. One can always tell a lady by her voice and laugh—neither of which will ever be loud or coarse, but soft, low and nicely modulated.

Slang.—Remember that "slang" is vulgar. It is unfortunately prevalent. It lowers the tone of society and the standard of thought. It is a great mistake to suppose that slang is in any way a substitute for wit.

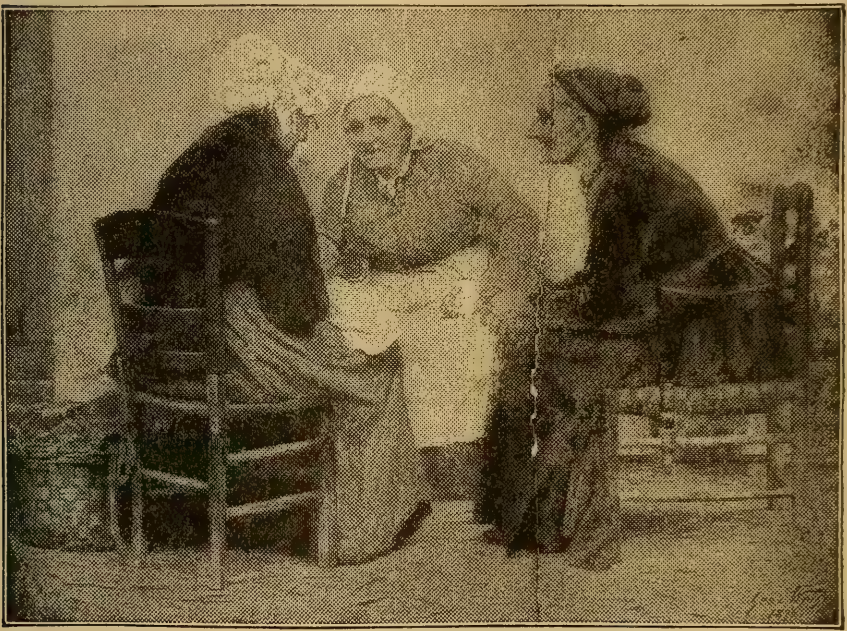
Long Arguments and Anecdotes.—Long arguments in general company, however entertaining to the disputants, are tiresome to the last degree to all others. You should always endeavor to prevent the conversation from dwelling too long upon one topic.

Those who introduce anecdotes into their conversation are warned that these should invariably be "short, witty, eloquent, new and not far-fetched."

Friendship.

Personal Remarks.—Endeavor to cultivate the habit of talking well about trifles. Be careful never to make personal remarks to a stranger on any of the guests present; it is possible, nay, probable, that they may be relatives, or at least friends.

Profanity.—A gentleman should never permit any phrase that approaches to an oath to escape his lips. If any man employs a profane expression in the drawing-room, his pretensions to good-breeding are gone forever. The same reason extends to the society of men advanced in life; and he would be singularly defective in good taste who should swear before old persons, however irreligious their own habits might be.



GOSSIP.

Listening, Good Breeding.—Listening is not only a point of good breeding and the best kind of flattery, but is a method of acquiring information which no man of judgment will neglect. "This is a common vice in conversation," says Montaigne, "that instead of gathering observations from others we make it our whole business to lay ourselves open to them, and are more concerned how to expose and set out our own commodities than how to increase our stock by acquiring new. Silence, therefore, and modesty are very advantageous qualities in conversation."

Interjections.—The interjection of such phrases as "You know," "You see," "Don't you see?" "Do you understand?" and similar ones that stimulate the attention and demand an answer, ought to be avoided. Make your observations in a calm and sedate way, which your companion may attend to or not, as he pleases, and let them go for what they are worth.

The Key to Good Behavior.—To avoid wounding the feelings of another is the key to almost every problem of manners that can be proposed, and he who will always regulate his sayings and doings by that principle may chance to break some conventional rule, but will rarely violate any of the essentials of good breeding.

Use of Familiar Terms.—When in company one should leave behind all peculiarities of mind and manners. That, indeed, constituted Dr. Johnson's notion of a gentleman, and as far as negatives go, the notion was correct. It is in bad taste, particularly, to employ technical or professional terms in general conversation. Young physicians and lawyers often commit that error. The most eminent members of those occupations are the most free from it, for the reason, that the most eminent have the most sense.

Conclusion of the Whole Matter.—The foregoing rules are not simply intended as good advice. They are strict laws of etiquette, to violate any one of which justly subjects a person to the imputation of being ill-bred. But they should not be studied as mere arbitrary rules. The heart should be cultivated in the right manner until the acts of the individual spontaneously flow in the right channels.

SECTION FIVE—LESSONS IN CONVERSATION

Avoid satire and *sarcasm.*

Avoid *exaggeration.*

Avoid *repeating* a brilliant or clever *saying.*

Avoid giving the impression of one *filled with "suppressed egotism."*

Avoid *oddity.* Eccentricity is shallow vanity.

Never give *advice unasked.*

Never discourse upon *your ailments.*

Never repeat a *word* that was *not intended for repetition.*

Never use words of the meaning or pronunciation of which you are uncertain.

Never tell a *coarse story.* No wit or preface can make it excusable.

Never treat anyone as if you simply wanted him *to tell stories.* People laugh and despise such a one.

Never *take liberties* by staring, or by any rudeness.

Never infringe upon any established regulations among strangers.

Never *prompt a slow speaker*, as if you had all the ability.

In conversing with a foreigner who may be learning our language, it is excusable to help him in some delicate way.

Never mention *your own peculiarities;* for culture destroys vanity.

Never utter an *uncomplimentary word* against anyone.

Do not manifest *impatience.*

Do not *interrupt* another when speaking.

Do not *find fault*, though you may gently criticise.

Do not appear to notice *inaccuracies of speech* in others.

Do not *always commence a conversation* by allusion to the *weather.*

Do not be *too positive.*

Do not try to *lead in conversation*, looking around to enforce silence.

Do not *talk of yourself* or of your friends or your deeds.

Do not become a distributer of the *small talk* of a community. The smiles of your auditors do not mean respect.

Do not always prove yourself to be the one *in the right.* The right will appear. You need only give it a chance.

Do not say anything *unpleasant* when it can be avoided.

Do not give any *sign* that you appreciate *your own merits.*

Do not *tell a story*, unless it be used as an illustration; then tell it accurately.

Be modest.

Be what you wish to seem.

Repeating kind expressions is proper.

It is half of conversation to listen well.

Listen to others patiently, especially the poor.

Sharp sayings are an evidence of low breeding.

Shun faultfindings and faultfinders.

The manner and tone are important parts of a compliment.

Compliments delicately expressed and sincerely intended are a grace in conversation.

Be careful in asking questions for the purpose of starting conversation or drawing out a person, not to be rude or intrusive.

Cultivate the wisdom which consists less in saying what ought to be said than in not saying what ought not to be said.

SECTION SIX—ETIQUETTE OF MANNERS

Graceful Manners.—Graceful manners, says *Longfellow*, are the *outward form of* refinement in the *mind* and good affections in the heart.

Good manners, says *Archbishop Whately*, are a part of *good morals* and *kind courtesy.*

Manners, says *Emerson*, are the *happy ways of doing things;* each one a stroke of genius or of love, now repeated and hardened into usage, they form at last a rich varnish with which the routine of life is washed and its details adorned. If they are on the surface, so are the dewdrops which give such a depth to the morning meadows.

Chums in the Home

Manners, says *Burke*, are of *more importance than laws.* Upon them in a great measure the laws depend. The law can touch us here and there, now and then. Manners are what vex or soothe, corrupt or purify, exalt or debase, barbarize or refine by a constant, steady, uniform, insensible operation, like that of the air we breathe in; they give their whole form and color to our lives; according to their quality they aid morals, they supply them or they totally destroy them.

Good Manners at Home.—How much pain and misunderstanding would be avoided if girls would only be natural! The girl one meets away from her own home is so frequently a purely artificial creature, to all appearance so sweet-tempered, bright and unselfish, full of spirit and energy, laughter and fun. But frequently in her own home, where these qualities would be so greatly appreciated and do so much good, what do we find? That she possesses an unlimited faculty for making home miserable. She is selfish and ill-tempered and will see her own mother overburdened by work or anxiety, but will not hold out the helping hand she gives to strangers.

Girls at Home.—How can the girl who is not genuine expect to possess the desire of all girls—a happy home of her own? She imposes upon a man for a time, but when the mantle of airs and graces slips from her and he has been treated to one or two domestic scenes, what bitter disappointment follows!

Kind Hearts More than Coronets.—Girls, don't put on your smiles with your visiting costumes, but let them be for home wear and they will become part of yourself. Don't make those who love you unhappy, but cultivate a willing, cheerful disposition and a determined spirit to make the best of things. You are not only making those who love you suffer, but are laying up for yourselves a store of misery. You can avoid this if you wish it; every girl can become what she should be—the sunshine of her home. Begin to-day by wearing your company manners at home; exert yourself to be pleasing, agreeable and obliging, especially in small things, and you will soon be quite content to let the world see your real, true self. The girl who possesses a kind heart and a perfectly natural manner is one of the happiest creatures in existence. "Kind hearts are more than coronets;" they are welcome guests at every board and a universal blessing.

Don't *contradict people*, even if you're sure you are right.

Don't *be inquisitive* about the affairs of even your most intimate friend.

Don't *underrate anything* because you don't possess it.

Don't *repeat gossip*, even if it does interest a crowd.

Don't *go untidy* on the plea that everybody knows you.

Don't *be rude* to your inferiors in social position.

Don't *overdress* or underdress.

Don't *jeer* at anybody's religious belief.

Don't be vulgar, but don't show that you are trying hard not to be vulgar.

Don't *expect too much* from other people, but encourage other people to expect a great deal from you.

Don't *scold* and *snarl*, as it is exceedingly ill-bred to do so.

Don't *lend* a *borrowed book*, unless by permission of the owner.

Don't try, when in company, *to attract the attention* of some-one by *signals*, a *cough* or a *nudge*.

Don't vent *your irritation on anybody*.

Don't use *hair dye*, *hair oil* or *pomades*.

Don't cleanse your ears, or your nose, nor trim and clean your finger-nails in public.

Don't walk with a slovenly gait.

Don't carry your hands in your pockets.

Don't chew or fumble your toothpick in public.

Don't chew tobacco.

Don't expectorate.

Don't laugh boisterously.

Don't have the habit of "grinning." A smile or laugh is proper in its place.

Don't use a forced, light laugh while in conversation.

Don't gape in company.

Don't keep pulling your whiskers, adjusting your hair, or otherwise using your hands around the face or head.

Don't be over-familiar.

Don't look over a person's shoulder when he is reading or writing.

Don't beat the devil's tattoo with foot or fingers.

Don't be servile toward superiors, or overbearing toward inferiors.

Don't drink any alcoholic liquors of any kind whatever. It may be good etiquette to do so under certain conditions, but is not wise.

Don't touch people when addressing them.

Don't whisper in company.

Don't talk about yourself or about your business or your family unless requested by others.

Don't show repugnance even to one who is not pleasing to you.

Don't fail to notice elderly people.

Don't read to yourself in company.

Don't look at your watch in company, unless requested to do so.

Don't forget good manners in anything or in all places.

Do keep to the right in walking on the streets.

Do apologize if you tread upon or stumble against anyone.

Do raise your hat, gentleman, to every lady with whom you are acquainted, that you meet on the streets.

Do be careful about asking questions of strangers. Young women run risks by so doing. Public officials, as policemen and conductors, are the proper persons to answer questions.

Do address a young lady by her surname. Don't say "Miss Annie."

A lady should first recognize a gentleman.

Anyone should conduct himself or herself on the street in such a manner as not to attract attention.

A gentleman should always recognize a lady when she salutes him.

All should arrive in time for any public entertainment.

A gentleman should not smoke while in the presence of a lady.

Ladies or gentlemen should not wear too many rings.

Ladies should not use an excess of cosmetics or of perfumery. A gentleman should use neither.

A lady should always have an escort after nightfall, for safety and as a matter of etiquette.

In a public conveyance, as a street car and the like, *no lady will accept a seat* vacated by a gentleman for her convenience, *without a smile, a bow or thanks.*

SECTION SEVEN—ETIQUETTE AT THE TABLE

Invited guests should *not be late at dinner.*

Seat yourself only *after all* the *ladies* are seated, or until the *host* or *hostess gives* the *signal.*

The *napkin* should not be *tucked under the chin*, nor spread out upon the breast.

All the *ladies* should be *served first*, including those of the household.

Eat soup from the *side* of the *spoon*, not from the end.

Break off your *bread;* do not bite it.

Convey food to the mouth with the *fork* or *spoon*, *not* with the *knife.*

Take *plenty* of *time* to eat; haste is vulgar.

Eat *quietly* and *easily*. It is vulgar to fill the mouth too full.

Keep your elbows close to your side.

Eat nothing with the spoon that can be eaten with the fork.

One should not stretch across another's plate in order to reach anything.

If a waiter or servant is at hand, do not ask your neighbor to pass anything.

It is not in good taste to play with one's napkin, goblet, fork and the like.

The napkin is for the mouth only; do not use it to wipe the face, hands or beard.

The lady sitting beside a gentleman at table should receive his first attention.

Be careful about talking with food in your mouth.

Accidents will happen; but let all mishaps pass without comment or embarrassment.

It is not well to use the toothpick at the table.

A guest should not be worried with constant importunities to eat more, or to have food of different kinds pressed upon him.

When the meal is over, place the napkin loosely on the table; do not fold it.

Express pleasure, if you will, when you depart, but *not for your dinner.*

Ladies and gentlemen should be properly dressed at meals. Curl papers for the woman and shirt-sleeves for the man are vulgar.

Drink from the cup, *not the saucer.*

The *teaspoon* should *not* be carried *in the cup.*

Never pour gravy on a plate without permission. If you are requested to help anyone to sauce or gravy, *do not pour it over the meat or vegetables,* but on one side of them.

Do not touch the bones with your fingers while eating game and the like. It is *not elegant to take a bone* in the *fingers* for the purpose of picking it.

Fingers of the *left* hand should be used to remove or to convey anything from or to the mouth.

Keep your mouth shut when masticating your food.

If one is asked by the carver to make a choice of a certain part of a fowl it is polite to do so, but *one should not express a preference uninvited.* In America we think it more considerate to others not to begin eating until all or nearly all are helped. In England they think it unnecessary to wait. When asked to pass a certain dish to another it would indeed be very rude to serve one's self before offering it to the one who asked you for it.

Bread only may be placed on the tablecloth.

Always *lift* and *pass food* to others courteously; never shove it across the table.

To use one's knife, spoon or fingers instead of the butter-knife, sugar-tongs or salt-spoons, *conveys* an impression of *ignorance* of *polite usage.*

If compelled to use one's handkerchief, it should be done quietly, with the head turned from the table.

It is not polite to *soak up gravy* with bread *from the dish.*

CHAPTER IV

HEALTH AND GOOD FORM

HEALTH AND BEAUTY.

SECTION ONE—BEAUTY

Beauty in man or woman, but especially in woman, is a power and a possession not to be despised. It is a positive good when not abused. If women could look into the hearts of men they would discover that much of the dissatisfaction with wives, much of the disagreeable in the homes, results from the indifference of women to their personal appearance. Often domestic duties, maternity and its cares and anxiety—always a strain on the nerves, and a trial to strength and ambition—exclude them from society until they lose all interest and become indifferent to its demands. This is followed by inattention to the person and dress. They come to think, in time, that all attempts to adorn themselves or to make themselves attractive at home are a waste of time and energy.

Woman should cultivate beauty and its appointments in order to endear herself to her husband and children. She should seek to preserve the charms which God has given her, with proper attention to higher duties and aims. It is a laudable ambition in woman to desire to be attractive, provided such ambition does not exclude worthier objects.

What Constitutes Beauty?—Beauty will vary according to age, place, taste and prejudice.

"No rule of beauty would satisfy the opinions of all people. In youth it is the plump damsel, pulsating with budding womanhood, fresh and lovely in her innocence, with waxen complexion, carnation lips shaped like Cupid's bow, laughing eyes, white teeth and shapely arms, that we admire.

"In after years it is the matured, self-poised woman, quiet in repose, with charms defined and pronounced, majestic in air and carriage, serene and dignified in deportment, that commands our admiration."

Highest Type of Beauty!—It has been said that the highest type of beauty to be found in nature pertains to the human form, as animated and lighted up by the intelligence within. It is the soul within that constitutes this superior beauty. Goodness of heart and purity of life stamp an impress upon the countenance which makes it good to look upon.

The face reports very quickly that which is going on within, whether good or bad, and homely features may be lighted up with the beauty born of a joy kindled by unseen forces.

Love a Beautifier!—"Love has the power to transfigure face and form. Homely, indeed, must be the face which is not made pleasing by love's enchanting influence. It gives roundness to the form, grace to the movements, light to the eye, sweetness to the mouth, color to the cheek and animation to the whole figure. Every organ of the body seems imbued by it with new life, and every function is rendered more efficient. To the face of many a pale-cheeked girl have three sweet words brought the rosy hue of health and beauty."

The betrothed in an old Irish song says:

"Light is my heart since the day we were plighted,
Red is my cheek that they told me was blighted."

Love also makes a man twice a man, and equal to anything

FIRST GLIMPSE OF THE WOODS.

that man may do or dare. It makes him strong and brave, as well as gentle and tender, gives firmness to his form, grace to his carriage, and character to his face.

Beauty Increased and Preserved!—Real enduring beauty of face or person must come from within and not from external applications.

"The blush will fade,
The light grow dim which the blue eyes wear,
The gloss will vanish from curl and braid,
And the sunbeam die in the waving hair.
Turn from the mirror and strive to win
Treasures of loveliness which will last;
Gather earth's glory and bloom within,
That the soul may be young, when youth is past."

Health and Beauty.—Good health, proper diet, regular exercise, habits and dress, all have more or less to do with beauty but the main source is in the mind and heart.

To be truly beautiful both body and mind must be in harmony with God's laws. The law of spiritual life is love. Love, then, my girls, if you are going to be perfect spiritually, if you are going to be beautiful and sweet-tempered in the home.

It is said of Frances E. Willard that nothing ever ruffled her temper or provoked her to a frown. She seemed to be love itself.

Source of Beauty.—Every girl wants to be beautiful. It is a part of nature to love everything that is beautiful.

But what is beauty? Many girls who have handsome features are far from being beautiful. Some people with very plain features are beautiful.

Real beauty depends upon three things: *good health, good temper* and *good manners.*

Physical Goodness.—Health (or physical goodness) and beauty will always be found to bear a strict relation to each other. A lack of beauty in any part of the body indicates a lack of health in that member.

Deformity of limb clearly shows a lack of vitality in that limb; a bad complexion indicates something wrong in the vital system; a malformation of the brain is a sure sign of want in the mental system.

Proportions of a Perfect Human Figure.—The proportions of a perfect human figure are strictly mathematical.

The whole figure is six times the length of the foot.

The face, from the highest point of the forehead (where the hair begins) to the end of the chin, is one-tenth of the whole stature.

The hand, from the wrist to the end of the middle finger, is one-tenth of the whole stature.

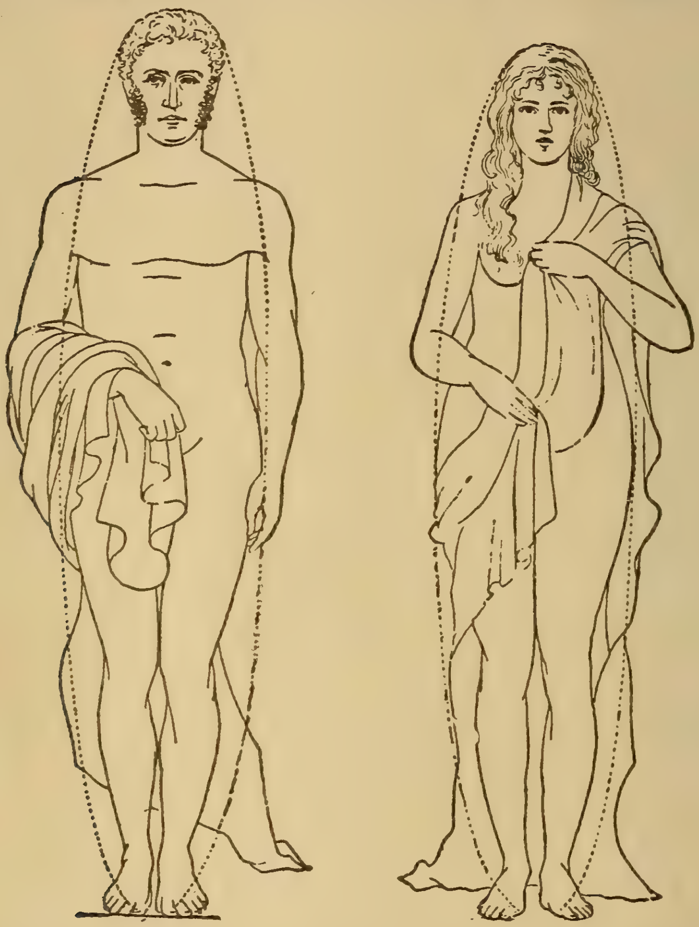
CONTENTED AND HAPPY.

The chest is one-fourth of the whole stature.

From the nipples to the top of the head, one-fourth of stature.

From the top of the chest to the highest point of the forehead is one-seventh.

If the length of the face, from the root of the hair to the chin, be divided into three equal parts, the first division is the point where the eyebrows meet, and the second under the nostrils.



CORRECT FORM AND PROPORTIONS OF MALE AND FEMALE.

The navel is the central point of the body. Were a man to lie on his back with his legs extended and arms stretched above his head, the circumference of a circle whose center is at the navel, may be made to touch the ends of his hands and feet.

The height from the feet to the top of the head is the same as the distance from the extremity of one hand to the extremity of the other when the arms are extended.

These conditions are thus in the perfectly symmetrical human body.

Beauty of Figure—Man, Woman.—Beauty in the figure of a man and beauty in the figure of a woman has each its own and a separate standard. *He* is broader at the shoulders than anywhere else, tapering from the shoulders to the feet.

A well-proportioned, finely-developed woman will have a full bust and abdomen, and shoulders not as wide in proportion as the man. A woman is broad at the hips, from which she tapers each way. A woman does not really have a smaller waist, it only appears to be small because near the larger parts. Science says: "Give us the small waist by contrast—large breasts and abdomen." Fashion says: "If you have small breasts and abdomen, make believe you have large ones by squeezing up the waist."

Beauty Desired by All Women.—All women desire to be beautiful. True beauty of form and face is more to be desired than houses and lands, silver or gold. We say "true beauty," a beauty based upon soundness of body, purity of mind and nobleness of character.

SECTION TWO—EXERCISE AND HEALTH

From the human standpoint there is no edifice so beautiful as that earthly temple which enshrines the soul.—*Dr. Cyrus Edson*,

Better to hunt in fields for health unbought
Than fee the doctor for a nauseous draught.
The wise for cure on exercise depend;
God never made his work for man to mend.
—*Dryden*.

Health is the vital principle of bliss, and exercise of health.—*Thompson*.

The Development of the Muscles.—The general size of the body depends on the development of the muscles.

The same bony frame that to-day tips the scale at an even hundred weight may, a year from now, round out into curves of beauty and count the pounds of added muscle to one hundred and fifty.

The muscles are like the various parts of machinery which go to make up a steam engine. In doing their work they produce heat and motion. The fuel which supplies this force is the food taken into the body. It is prepared for use in the intestinal canal, and from there carried by the blood to be stored up in the muscles and tissues as latent force. Through the circulation of the blood the whole body is heated by muscular exercise. Continual exercise of a certain kind will develop certain muscles. The muscle that grows when used within certain limits will waste away when deprived of its accustomed exercise.

Physical Culture.—The object of physical culture is the systematic development of all of the muscles, not some at the expense of others.

Open-Air Exercise.—The value of daily exercise in the open air can not be too strongly impressed upon those who would be healthy and beautiful. No other factor plays such an important part in maintaining the proper operations of both mind and body.

HEALTHFUL EXERCISE.

Too Violent Exercise!—Exercise imprudently taken is as bad as no exercise. Some will mount a bicycle, take a long ride in the country, and return completely exhausted, with every muscle in a state of tremor. The same exercise if extended over a week would have proven exhilarating, but crowded into a few hours overtaxes the muscles, and is a source of discomfort for days. Such exercise lowers the general vitality instead of raising it.

Vigorous Exercise.—But exercise should be vigorous enough to cause a rapid circulation of the blood before the point of fatigue is reached. Violent exercise is especially harmful immediately after a meal. The habit of many people who take an after-dinner nap is an excellent one. Animals, if left to follow their own inclinations, lie down to rest after eating.

Action of the Blood.—When all the muscles of the body are called into action the blood flows uniformly throughout the whole system, but if only one organ is exercised the blood will be most abundant in that organ. Long mental activity causes the brain to become overcharged with blood, and the lower limbs are apt to be cold. After a hearty meal the stomach becomes active and the blood rushes there to do extra work in the digestion of food. The withdrawal of the blood from the head to assist in digestion often causes drowsiness, hence the tendency to seek a restful chair or couch and forget the ills of life in sleep.

Headache.—If one suffers from headache after prolonged mental effort, exercise in the fresh air will often cause it to take a speedy departure. No form of exercise is better than a brisk walk with a pleasant companion. If company can not be had, what needs one better than his own thoughts—if pure and righteous—and the creatures of the sky and air.

Exercise and Clothing.—When taking exercise the clothing should be loose, and as scanty as consistent with modesty and warmth.

In the Gymnasium.—The principal requisites in a gymnasium costume are that it be as light as may be consistent with the protection of the person, and so fashioned as to allow perfect freedom of movement. The more beautiful and becoming it may be made, the better, provided these points be not sacrificed. The prettiest ladies' costume for the gymnasium that we have seen is composed of a short dress or frock reaching to the knee, made with a yoke and belt, and pretty full; and trousers of the common pantaloon form. The sleeves of the dress may be short for summer wear, and gathered into a band and buttoned at the wrist for winter. A sack or basque of a different color from the skirt has a fine effect as a part of this costume. Such a dress as this, or some other appropriate exercising costume, should form a part of every woman's wardrobe, and should be worn a portion of every day.

SECTION THREE—THE TOILET

Cleanliness of the Person.—Dr. Galopin remarks that "Love begins at the nose." An unpleasant odor always shows itself about the person of those who neglect the bath. Bad smells lead to aversion. Bad smelling persons are exceedingly disagreeable companions.

If the husband wishes to be held in pleasurable esteem by a sensitive and refined wife, or, if the wife hopes to retain the affection of a refined husband, each should avoid offending the olfactory nerves of the other.

The Bath.—A bath should be taken at least once a week, and if possible, every morning.

ENJOYING HER VACATION.

If the feet are offensive, as they are in many cases, they should be bathed several times a week. In addition to the bathing, the stockings should be changed each day.

Dirt and Duty.—Not infrequently young people are seen with dirty ears and neck. A dirty neck and smiling face are not in harmony. Every lady owes it to herself to be fascinating; every gentleman is bound, for his own sake, to be presentable; but beyond this there is an obligation to society, to one's friends, and to those with whom we may be brought in contact.

"Habitual filthiness," says Riddell, "is not only unhealthy, but demoralizing. No man who is uncleanly need expect to have a pure mind, nor to give a decent inheritance to a child. The weekly or semi-weekly warm bath should be a part of every person's religion. The morning sponge-bath, followed by a little brisk rubbing with the palms of the hands, is a luxury that should be enjoyed by all, save the extremely feeble or delicate."

The Skin an Organ.—It will be remembered that the skin is an organ. Its main purpose is to throw off worn-out matter. In the skin are myriads of pores through which the effete matter of the body is removed. If these minute pores be closed by anything, the work of the skin can not be properly done. Hence the necessity of keeping the skin clean.

A Caution to Young Women.—It is well known that, at certain periods, women from fifteen to forty-five, are, in the language of the Mosaic law, "unclean;" that is, at their monthly periods. Unless great care is taken, at these times, women may, and sometimes do, give off a very unpleasant odor. This can be avoided by giving heed to the dictates of cleanliness. Let the changes and baths be often, very often.

Cleanliness and Clothing.—The matter of cleanliness extends to all articles of clothing, underwear as well as the outer clothing. Cleanliness is a mark of true utility. The clothes need not necessarily be of a rich and expensive quality, but they can all be kept clean. Some persons have an odor about them that is very offensive, simply on account of their underclothing being worn too long without washing. This odor, of course, can not be detected by the person who wears the soiled garments, but other persons easily detect it and are offended by it.

The finger-nails should be kept cut and clean.

A clean shirt, a clean collar and cuffs greatly improve the appearance of a man, young or old.

Clothes should be kept clean and well brushed. Even the slightest spots should be carefully removed.

SECTION FOUR—AIDS TO PHYSICAL BEAUTY

In order to preserve and enhance beauty, it is necessary to observe the rules of health as related to habits, exercise and attention to the toilet.

In a few general suggestions we shall now speak of these subjects and discuss their relation to physical beauty.

THE SKIN

The Real Value of Massage.—The cutaneous vessels will hold a good half of the whole volume of blood in the body, which, unless actively moving, must become impure, and lose a part of its vitality, leading to the development of various skin diseases. By the time the blood-stream reaches the capillaries of the skin, it has lost the impelling force of the heart's beat, and depends largely on external influences to keep the current moving.

The blood-vessels of the skin are under the control of delicate nerve fibers running along their walls, and these nerves are influenced by atmosphere and climatic conditions, bath and electricity, but especially do they respond to hand friction and massage.

Friction appears to increase the positive electrical energy of the body by generating electric currents, which use the nerves as conductors. The application of hand friction charges or magnetizes a man, in addition to its purely mechanical action in stimulating circulation.

Prevention of Skin Diseases.—Among the most common diseases of the skin are acne and eczema, one of which is known to be, and the other probably is, the result of the presence of a microbe on or in the skin. This microbe is a vegetable growth, although a very minute one, and, like other noxious weeds, when once it has been planted and has begun to grow it is often extremely difficult to dislodge it.

Every farmer knows that it is easier to keep a field clean by constant care than to clear it after it has once been overgrown with weeds. It is the same with the skin. It is easier to keep the skin in health and to arrest a commencing disease than to cure a disease once it has become firmly established.

If it were generally understood that the presence of a few pimples constitutes a true skin disease, which if neglected will probably grow worse, fewer persons would suffer from the disfigurement of acne.

The skin is much like the system in general—if it is in good condition it will repel the assaults of disease, but if neglected it becomes less resistant, and soon offers a favorable soil for the growth of noxious germs.

The skin is one of the so-called excretory organs, and if the other organs of similar function—the kidneys and the bowels—do not perform their work properly, an undue proportion of the waste products of the body must be got rid of through the pores of the skin. This throws work upon the integument which it is not accustomed to perform, and it soon becomes diseased in consequence.

The first thing necessary to keep the skin well is to maintain the health of the body by exercise, cleanliness, fresh air day and night, good food properly cooked, a sufficient amount of sleep and suitable clothing. In addition to these general measures, the skin itself should receive special attention in the way of a daily bath, followed by vigorous rubbing with a coarse towel or flesh brush.

Blackheads.—Some persons have naturally clear skins, while others appear to have a special predisposition to blackheads and pimples. The fortunate ones must see to it that they do not mar what nature has given them by an unhygienic mode of life; but the others need not despair, for their tendency to eruptions may often be overcome by scrupulous care both of the body and of the skin itself, after the manner above indicated and in such other ways as the physicians may direct.

Skin blemishes on the face may come either from within or without. Keep the system from being clogged and the pores of the face will be in a healthy condition. Use a salt-and-water bath for the face at night, then wash thoroughly with pure soap and warm water, followed by cold water in the morning. After bathing the face rub it perfectly dry.

Dry skin on the face may be put in a healthy condition by the use of proper massage—the roller preferred—and by the use of the purest creams, those containing only vegetable oils.

In case of sunburn, bathe the skin in a *weak* solution of soda. Use a little soda in the daily bath.

If, after a day on the water, you feel that your face is burned to the point of tenderness, do not apply water, but use a healing toilet preparation immediately—cold cream and almond paste or a preparation of glycerine and lemon, as follows: Citric acid (lemon), three drams; hot water, eleven ounces; borax, two drams; red rose petals, one ounce; glycerine, one ounce. Dissolve the acid and borax in the water; infuse the petals for an hour; strain through a jelly bag; after twenty-four hours decant the clear portion and add the glycerine.

Complexion tablets and so-called blood purifiers are, as a rule, injurious. Exercise in the open air, plain, wholesome food, daily baths, and well-ventilated living and sleeping rooms are the best remedies for an unhealthy condition of the blood, which is the cause of almost all poor complexions.

A Few Don'ts.—Don't use soap on the face oftener than once a day. Night is the best time for a thorough cleansing.

Don't use cold water when giving the face a cosmetic scrub. Warm water, followed by a dash of cold water, is better.

Don't try to put cold cream on a cold skin, or the absorption will not be thorough.

Don't forget that vinegar will eradicate yellow stains from the face. Bathe the bruise at once with vinegar and discoloration will be prevented.

Don't have a shiny nose and forehead, because it is warm weather. Use a little cologne or spirits of camphor in the water when bathing the face.

Don't wash your face in cold water the moment you reach a washstand if you have been traveling. Remove traces of dust and smoke with cold cream and wipe off with a soft towel.

Don't be afraid of the flesh brush or glove. Friction rouses the circulation and restores tone and color to the skin.

Don't expect to cure an eruption on the face by external applications only. A hot foot-bath, containing washing soda, will often cure this trouble.

CARE OF THE HANDS

Few people attach enough importance to the care of the hands. When it is remembered that the hand is offered in salutation to our friends, that it performs numbers of the most delicate offices at every moment of the day, that it touches many objects through which it may convey the germs of infection—when all these are considered, some idea of the importance that should attach to the care of them is realized.

A lady desires to know a method of caring for her hands. She says she has worked faithfully with them, but all to no purpose; that they are rough, hard and dry, and that she really suffers with them. She can not do fancy work and they annoy her all the time.

I have studied along this line, have had the best of manicures in New York city and other cities, so as to be able to help my sister women, if possible, in the care of them at home. In this case I would advise if possible that the young girl go to a first-class manicure. One treatment would work wonders in her case, I think. Perfect cleanliness is the greatest adjunct to beauty and health of hands, but, for all that, do not wash your hands too often. Washed seldom but thoroughly, they will keep in a far nicer condition.

First of all, hard water is fatal to a good skin; if you can not get cistern water or rain water, get five cents' worth of borax, keep on your washstand and put a pinch in the water every time you wash your hands or face. It will not hurt a particle, is perfectly safe and it whitens and softens the skin as well as the water. Try not to wash your hands but once or twice a day. Wear loose gloves at night, but be very careful that they are clean inside and outside; otherwise the dirt and grease are absorbed by the heated glands.

A great beautifier for hands is equal parts of lemon and glycerine and a small quantity of borax; sweeten with violet.

The hands should be thoroughly washed at night before going to bed. The pores are thus left free and unclogged and the health of the hand is preserved; but, above all, the ends of the fingers should be so well washed and cared for that the skin remains entirely unbroken. Then the contamination of the day will be powerless to effect harm, as these dangers only come through the breaking of the skin about the nails.

Polishing the nails may serve for the occupation of idle people, but the busy woman will find these simple rules of washing the finger-ends will result in nails that will bear comparison with the much-manicured hand of the woman of leisure. At night, after washing them, use whatever oil or cream agrees with your skin.

Care of the Finger-Nails.—Hands need not be repulsive if they are used to hard work, and hands are not always attractive if the nails are highly polished and daintily curved. Even shell-like nails will not conceal the bad character that some hands reveal, neither will toil-worn fingers condemn the truly fine hand.

Cleanliness comes first, and therefore soap and warm water, a crash wash-cloth for rubbing the hands, or a nail brush, are the first requisites. By the time the hands have been soaked and rubbed till clean, the cuticle around the nail is sufficiently loosened to be easily pushed back at the sides and root of the nail, either by the pressure of the fingers alone, or using the wet cloth. In drying the hands use the soft bath towel the same way as when drying the fingers; the habit once formed of touching each nail, with this backward movement when bathing and drying the hands, one almost unconsciously gives their nails "massage treatment" not less than three times a day, and as many more as the nature of their employment demands. The housekeeper, who is a worker, may have occasion to "wash her hands twenty times a day," but the deftness which she may acquire in pushing back the cuticle around her nails will not delay her an appreciable number of seconds.

Roughness of the Hands.—If your hands become roughened from housework, whenever you wash them rub on some corn-meal, as well as soap, and rinse in clear water; at night apply a lotion made of glycerine, two ounces; rosewater, one-half ounce, and acetic acid, one dram.

When sweeping and dusting wear loose-fitting gloves. Have a pair of rubber gloves for use when it is necessary to have the hands in water a great deal. Grease spoils rubber, therefore the gloves must be washed perfectly clean as soon as the work is finished.

To Soften Toilet-Water.—An easy way to soften hard water delightfully is to throw orange peel into it just before the water is used. The peel will not only prove agreeable to the skin, but will give out a fragrance like that which follows the use of toilet-water.

For softening water for bathing purposes nothing is better than oatmeal. Place a small quantity in a cheesecloth or muslin bag, place in the water for a minute or two, then squeeze and remove. The oatmeal must be renewed every few days.

A helpful hint offered by the professional woman is the use of witch hazel in the bath water. This is an invaluable remedy for prickly heat and all skin irritations peculiar to hot weather, and acts as a tonic to flesh and nerves. Lemon juice is infinitely better for the skin in summer than complexion lotions, and soap should be used with care. The skin is particularly sensitive in summer, and highly colored perfumed soaps are more than ordinarily dangerous at this time.

CARE OF THE EYE

Eye Don'ts.—Don't read, study or sew lying down.

Don't have the light fall on your work or book from the front; have it slightly back and from the side, preferably the left.

Don't go where there is a glare of either sunlight or electric light more than you can help. The green of the country and of the grass and trees is restful for the eyes.

Don't despise the day of little things. The whole system needs to be in good condition to keep each organ right. So keep your body strong; for when the body weakens the eyes weaken. This is the reason of failing sight in old age.

Don't go to an optician to get glasses without first being examined and treated by a good oculist. Much harm is often done in this way, and your eyes are not things to run any risks with.

Don't use the eyes when very tired or weak from sickness; they are the most sensitive of our organs and tire as the rest of us tires, and use, after a certain point of fatigue or weakness has been reached, is injurious to any part of our body.

Don't forget that hot water is most efficacious in case of inflammations or tiredness. Bathing for about ten minutes with water as hot as you can bear your elbow in is almost a sure relief. A boric acid solution, which can be obtained at any drug store, also is excellent.

Don't neglect or strain your eyes; they are the most precious and useful of our senses. Take as good care of them as is in your power in the first place; but if they are not as they should be, have them attended to at once. Remember, if they are once injured they are never quite so good as they were before.

Rest the Eyes.—Occasionally when sewing or writing for any length of time one begins to feel the eyes smart and ache. The readiest relief in my own case is to take a saucer of cold water in which a pinch of salt has been dissolved and into it wink my eyes half a dozen times. In this way wash the eyes thoroughly, then dry with a soft napkin and give them ten minutes' rest, keeping them tight shut.

Smooth, glossy eyebrows and long, dark lashes add wonderfully to the beauty of a face, and women should care for these necessary adjuncts to their good looks. If the brows are thin and ill-formed rub pure grease or vaseline on them at night, bathing them carefully in cold water in the morning and then putting on a little petroleum. Never brush nor rub the brows the wrong way. Brush them daily with a small eyebrow brush, and you will find an improvement.

Brushing the eyebrows and eyelashes every morning with a solution of green tea improves them. There is no better lotion for the eyes than salt water.

An excellent wash for red, tired eyelids is composed of a small quantity of sulphate of zinc dissolved in a quart of water. The eyes should be bathed in a little of this twice daily and gently dried with a soft rag. I have known this wash to cure obstinate cases of weak eyes.

Foreign Substances in the Eye.—A natural instinct impels a person who feels pain or irritation to rub the affected spot. When some trifling object gets under the eyelid, one is tempted to rub the exterior of the lid, and thus unconsciously imbed the object in the inner surface, thus rendering its ultimate removal more difficult. Another almost irresistible impulse prompts one to wink. This operation is apt to have the same effect. If the lid is promptly turned inside out, though, danger from both of these causes will be avoided and the discovery of the mischief-making particle may be promoted. It is better to have some-one else do the hunting, but if a looking-glass is at hand, perhaps the victim can see well enough with the other eye to find the object in question. A correspondent of the *Scientific American* makes these suggestions:

Gently hold the eye open with the fingers and thumb of one hand, while with the other hand dash light handfuls of water in and across it, so as to produce a current of water flowing over all the surface of the eye, and the under side of the lids. The effect of this almost invariably is to push the intruding object from the eye.

The eye should not be rubbed or one lid drawn over the other, or a silk handkerchief drawn across the affected part, but the eye should be kept from winking as much as possible, while prompt action is being taken to cause a current of water to pass over the surface of the ball.

If a cinder gets in the eye, wet a flaxseed, and put it in one corner of the eyelid. Close the lid and the seed will attract the cinder and bring it out. Closing the eye and anointing the edges of the lid with vaseline is another way of accomplishing the same end without irritating the delicate organ.

To Cure a Stye.—Make a poultice of lukewarm tea leaves. Put the smallest quantity of water over a half spoonful of black tea and allow it to steep. Take it in ten minutes and fold into a tiny piece of thin muslin. Lay it on the eyelid and keep the eyes shut for half an hour. As it dries moisten in the cold tea. This cure is only of avail before the stye has come to a head: the poultice must be applied as soon as the first prickling pain in the eyelid announces the coming of the disagreeable inflammation.

To relieve a stye, wet a compress of old linen with boiling water and lay on the stye. Repeat every few minutes several times and do this once an hour as long as may be necessary.

CARE OF THE EAR

Never meddle with the ear if a foreign body, such as a bead, button or seed enters it; leave it absolutely alone, but have a physician attend to it. More damage has been done by injudicious attempts at the extraction of a foreign body than could ever come from its presence in the ear.

Never wear cotton in the ears if they are discharging pus.

Never apply a poultice to the inside of the canal of the ear.

Never drop anything into the ear unless it has been previously warmed.

Never use anything but a syringe and warm water for cleaning the ears from pus.

Never strike or box a child's ears; this has been known to rupture the drumhead and cause incurable deafness.

Never scratch the ears with anything but the finger if they itch. Do not use the head of a pin, hairpins, pencil tips or anything of that nature.

To Cure Earache.—Put a live coal from the fire in a cup and pour a teaspoonful of granulated sugar over it. Be careful not to let it blaze, and at once insert a small funnel over it, holding the tip of the funnel in the ear. The smoke gives instant relief.

CARE OF THE TEETH

The teeth should have proper and constant attention. All foreign matter must be removed or decay will come sure as fate. The sooner one becomes used to a moderately stiff brush as a daily companion the better for the teeth. See that the brush, as well as your teeth, is kept scrupulously clean. Use tepid water for washing the teeth as often as you eat.

Occasionally you may use a little lemon juice on the teeth to remove the yellow stain and tartar.

A little common table salt is also good for the teeth occasionally.

An offensive breath may be removed permanently only by removing the cause, which may be either from the teeth, nostrils, throat or lungs, not from the stomach. If from the teeth, seek a dentist; if from any other cause, take internal baths.

CARE OF THE FEET

Most people take pride in a well-shaped foot, and all people take comfort when they forget they have feet. But who can portray the agony incased in one little corn! And who can describe the discomfort of tender, aching feet!

Ill-Fitting Shoes.—Have you ever suffered torment from an ill-fitting shoe, tight in one spot? If so, apply sweet oil to the stocking where the shoe rubs. It is better than to put it on the shoe, because it softens the inside of the shoe where it is needed, instead of the outside.

Tender Feet.—*Frequent change of shoes* is not only better for those having tender feet, but also for those who wish to avoid having them. It is not only hygienic but economical as well to change one's shoes often. Two pairs of shoes used alternately will last as long as three pairs used successively.

For tender feet, soak in cold water, to which an ounce of powdered borax is added, and rub dry with a towel.

For Tired Feet.—When the feet are tired and tender after much walking or standing during the day, there is nothing that will afford them so much relief as a good warm foot-bath. Take as warm water as can be borne and throw into it a handful of sea salt. Bathe the feet and legs with this for from five to eight minutes, and then rub briskly with a dry towel. The effect is most refreshing. It is a useful thing to know, too, that bathing the feet in this way before retiring is an excellent remedy for insomnia.

CARE OF THE HAIR

At night before retiring brush the hair carefully and braid it loosely in a number of strands. Avoid wetting the hair too often to make it glossy, as the wetting has a tendency to make the hair coarse. Avoid putting the hair up in kids at night to wave it. They are more harmful than even the much abused curling-iron, as the hair is twisted about the kid so tightly that it actually wears it out, and a bald spot is apt in time to be the result.

Beware of bleaches and of coloring matters that are guaranteed to restore hair to its original color. The presence of sulphur in almost all of these bleaches causes the hair to turn an ugly yellow. Do not try to improve upon Nature. Use only Nature's remedies—food, air, water and exercise.

The Hair.—The hair should be given much attention in summer, as heat, perspiration and the fine dust which fills the air in hot weather all conspire against woman's crown of glory. Hair culturists—and be it known that a hair culturist is not a hair dresser—claim that summer is their best friend, sending them innumerable patients when cool weather betrays the ravages which heat and perspiration have worked in once fluffy locks.

The hair should be shampooed at least once a week in summer and dried thoroughly in the sunlight. The practice followed by some ill-advised women of washing their hair at night and letting it hang over the pillow to dry, is reprehensible. Sunlight is a wonderful tonic for the hair, as for the entire human system. If the hair is oily, borax may be used to cut the oil. *A shampoo* prepared by boiling together borax, pure soap and rain water is excellent. Soap should never be rubbed on the hair, and it should be dried at first by patting with soft towels. Turkish toweling literally tears the wet hair from the scalp.

PURITY.

Preventing the Hair from Falling Out.—To a pint of hot water add a tablespoonful of borax, which will quickly dissolve; then add one drachm of salts of tartar and one ounce of almond oil; shake well, and perfume with a few drops each of bergamot, lemon, lavender and clove essential oils. A beautiful cream will be produced, which, shaken well before using, will impart a healthy gloss to the hair, purify the scalp, and act as a deterrent to the falling out of weak and thin-grown hair.

To Remove Dandruff.—Take two ounces of rosemary herb with roots, and break it up into small pieces; add two tablespoonfuls of borax; place in a jug and pour over it a pint of boiling water; cover and let the contents steam near the fire for three hours, stirring occasionally. When cold press out, pour off, and bottle the clear liquor, to which add one ounce of glycerine, shaking well together. This makes an excellent preparation, removing scurf and dandruff, and keeping the scalp healthy and thus preventing baldness. If perfume be desired add half a drachm each of bergamot, lemon, grass and lavender.

Helps and Hindrances to Its Growth.—Very often a good rubbing of the skin of the head serves to stimulate the growth of the hair. This ought to be repeated twice a week, and the friction should be so vigorous as to make the skin become red and glowing. Thin hair often becomes thick and long after this mode of treatment is applied. Another useful treatment for the hair is that of being allowed to float freely about for an hour or so, that the air may circulate through it.

Wearing false hair injures the natural growth by keeping the skin of the head too hot. Excessive use of the curling-tongs is very injurious to the hair.

Massaging the Scalp.—The first movement in massaging the scalp is "pinching the scalp." Take the scalp between the thumb and the four fingers, covering a comfortable space, then bring them together without letting them quite touch. The hair should never be pulled or dragged in doing this. The object of this pinching is to arouse activity in the pores and glands. It should not last more than ten minutes. Another important one consists in tapping the scalp. This should be done with the ends of the four fingers, which should fall methodically, but not violently, all over the scalp for not more than five minutes. This movement should invigorate the scalp, bring the blood to the surface and promote circulation. After this should come the movement called "pressure." This pressure should be done with the palm of the hand lightly, moving from place to place for about ten minutes, and always with a lingering movement, as though you wished to detach something. All this massage should be done without the aid of any grease or lotion.

Hints About Hair-brushes.—A specialist says that hair brushes should be washed once a week, and if used on hair in which there is much dandruff twice a week is not too often. The brushes should be washed in cold, not hot, water to which cloudy ammonia has been added in the proportion of a scant tablespoonful to a quart of water. Care should be taken not to wet the backs of the brushes, and when washed and rinsed—a good way to rinse them properly is to use a shower spray on them—they should be put on edge in the air to dry. Dressing combs, too, should be frequently cleaned, a comb cleaner being used for the purpose.

Dry Hair.—In the spring of the year the hair, with the rest of the system, gets very tired and in many cases requires a stimulant. In hot weather, too, the hair is apt to get dry and to feel the want of oil and nourishment. Dryness is one of the worst foes the hair has to contend with and it gives the hair a tired, faded appearance. The condition of one's health has a curious

READY FOR A FROLIC.

effect on the hair and one may be sure that the limp locks that refuse to wave belong to a person suffering from debility.

When the hair is dry and breaks easily, rub a little olive oil into the scalp every night. This will give nutriment to the hair glands and strengthen and increase the growth.

Baldness.—All hats should be well ventilated and worn as little as possible. If we went bareheaded, there would be no baldness. You never heard of a bald Indian. Heat and moisture are absolutely essential to the development of the microbes and the modern hat furnishes both of them. I have experimented on animals—inoculated them with the microbes and kept them in a warm, moist atmosphere. The microbes spread like fire and attacked the hair ravenously; but when the animals were put in dry, cool air the microbes died.

Women keep their hair better than men. In the first place, there is more of it and their scalps are better protected; but they wear their hats so much less than men and the hats, when they are worn, do not fit the head so tightly and create such a heat and moisture, generating poison, as the man's hat does.

A leather hatband should be changed frequently. It gets soiled, and decomposition of leather is a wonderful microbe promoter. Decay of animal fiber is responsible for these microbes. Experiment has proved that men working with leather and fur have more scalp trouble than any other class. Silk-factories are hard on the scalp, too.

There has been a popular belief that baldness is hereditary. Patients have a way of saying: "Oh, it runs in our family. My father was bald early and my mother's hair has almost all come out." That is all nonsense. Scalp trouble is not hereditary, but it is contagious, and it is very likely to run through a whole family.

Hat-pins ought to be cleaned often. So ought hair-pins. Cleanliness is the great baldness preventive; but when the disease has once started nothing but energetic scientific treatment will stop it.

SECTION FIVE—HYGIENIC BATHING

The Bath.—*The bath, as a hygienic measure,* probably stands second to no other within the knowledge of man. It is not only conducive to cleanliness, but is a most powerful promoter of health, both by its immediate and remote effects upon the system.

Precautions.—Under certain conditions, nothing is so invigorating as a plunge into cold water in the morning. It keeps the blood bounding through its channels all day, exhilarating the mind and invigorating the body. There are, however, certain indications to be noticed and certain precautions to be observed. The first shock or chill on entering the bath should be followed by a glow of warmth, in a healthy person. Let the form of the bath be what it may, the condition known as that of *reaction should always follow.* This is a point upon which the bather can not be too guarded. Reaction is recognized by redness of the skin over the whole surface of the body, by the glow, the sensation of comfort and invigoration, by the accelerated circulation, and by the feeling of increased warmth which pervades the whole system.

Reaction.—By such a reaction, all the internal organs are affected by a sense of relief from oppression: the breathing is easier, the heart beats stronger and more steadily, the mind becomes clear and active, muscular strength is increased, the appetite is sharpened, and the whole system, in fact, is rejuvenated.

How Often?—In order that the desired end may be attained, the bath should be taken at regular intervals. These, on an average, should be every second or third day, though there are many individuals representing the very finest types of physical manhood, who look upon their bath as an altogether indisensable operation of every-day life.

When Taken.—In order that it may be beneficial, the bath should not be taken at a time when any of the important organs of the body are engaged in the performance of their functions. The vital forces should be at their highest, and the general system should be entirely free from exhaustion. It should not, therefore, too closely precede or follow a meal; nor should it be taken at a time when the mind is engaged in some perplexing or exhausting labor. The reaction is far less certain to follow when the internal organs are active or exhausted, than when they are in a state of rest or repose.

Curative Effects of Bath Not Appreciated.—In many disorders of the internal organs, and in diseases of the skin, it exerts a more decided influence than medicine.

When to Bathe.—Persons who bathe very frequently, with brisk rubbing, should use less soap than when only weekly ablutions are practiced. An excessive use of so much alkali produces a dry, chapped, unnatural condition of the skin.

The water used for bathing purposes can be of any temperature between the two extremes of heat and cold, and the bath may be *partial* or *general.* But great care must be used as to cold baths directly after hearty eating. Many deaths have been reported from this cause, the shock to the system and check of the process of digestion being the probable explanation.

Kinds of Baths.—The most simple, and that best suited to very feeble invalids, is the (1) *sponge bath,* by which a small portion of the whole surface of the body may be gone over at a time. Each part should be sponged, then wiped thoroughly dry with

APOLLO BELVEDERE.
IN THE BELVEDERE OF THE VATICAN.

a soft towel, followed by friction with a coarse or rough towel; the portion of the surface bathed can be again covered with the clothing as soon as it is rubbed dry, and then there is no possibility of catching cold from undue exposure of any large area of surface.

Another method is the (2) *sitz bath*, or that of sitting in any conveniently shallow vessel of water, and also receiving water squeezed from a sponge held over the shoulder or any other part of the body. Afterward the surface should be quickly dried, and attention given to getting up a glow of reaction.

The third form is by the (3) *shower bath*. Various methods are in use to produce the affusion of water upon the body in a manner both pleasant and beneficial. The concussion of the skin by the fall of water distinguishes this form of bath from all others. The degree of concussion is modified by the size of the openings through which the water issues, and by the height of the reservoir. The shower bath, in fact, admits of modification, adapting it to the most delicate as well as the most robust. The size of the openings, the extent of fall, the quantity and temperature of the water, may be regulated at will and pleasure. The shower bath, when judiciously used, is probably the most valuable of all forms of baths; it is well to commence with warm or tepid water, for which, by a gradual process, cold water may be substituted.

(4) *The Turkish or hot-air bath* is a remedy of special value in gout, chronic rheumatism, malaria, neuralgia, various skin diseases, obesity, and a long list of chronic affections.

Turkish bath may be conceived from the following description: "The bather, wrapped only in a soft sheet, reclines on a lounge in the sweating-room, where the intense perspiration induced by a dry heat, varying from 120 to 140 degrees, is continued for a sufficient time to flush every channel of the skin, and expel from the body every particle of obstructed perspiration. The bather is then subjected to a process of elaborate shampooing, a kind of kneading of the muscles of the entire body by the hands of the assistant, by which means every particle of impurity is effectually worked out of the skin, which is then scraped and washed. The bather is then wrapped in a dry sheet and conducted to an agreeable divan, where he remains for a sufficient time to very gradually cool off and recover from fatigue."

Baths the Best Preservative of Female Health.—One of the best preservatives of female health is a plentiful use of cool or tepid water, both on the surface of the body and by vaginal injections. It is believed that this part of the feminine toilet is too much neglected, and in consequence of that neglect, many distressing and serious evils arise. Inflammations and adhesions arising from a want of habitual bathing of the private parts, may be cured by the bath. Also, among young persons, these physical neglects frequently lead to moral evils.

The most scrupulous cleanliness should be observed, both by male and female, old and young, married and single; as there is no doubt but that a neglect of it, in the male, results in numerous skin diseases, together with disorders of the internal organs; while in the female, in addition to these, there is danger of such affections resulting as leucorrhœa, pruritus, vulvitis, vaginitis, prolapsus and many other evils.

Bathing Neglected.—"Thousands of persons," said a doctor the other day, "do not pay proper attention to the rules that should govern the bath. Many persons bathe too much; others too little.

"The most important rule, and the one most often violated, is that of rubbing down after indulging in exercise. Every day thousands go cycling or take other exercise, after which they neglect to remove their underclothes and take a vigorous rub down with a coarse towel.

"More than half the pleasure in exercise lies in the feeling of new life obtained from this dry bath, for when you replace your damp underwear with that which is dry you feel like a new person, so invigorated and refreshed have you become. Catching cold, or, rather, catching heat, often comes from the neglect to properly care for yourself after exercising."

SECTION SIX—DRESS

The Uses of Dress.—Dress has primarily two functions—to clothe and to ornament; but use and beauty, in this as in other cases, so far from requiring any sacrifice for combination, are found, each in the highest degree, where both are most fully obtained—the fittest or most comfortable dress being that which is most graceful or becoming. Fitness is the primary demand, and *the dress that appears uncomfortable is untasteful.*

One's dress should not be the most important part of a person, and yet we can not deny that dress is important.

If a man's necktie or a woman's jewelry attract the first notice of a newly made acquaintance, then there is a radical defect in the dress of that man or woman.

The greatest compliment that can be paid to anyone is to forget the dress in admiration of the person who adorns the dress.

Dress an Art.—To dress well is an art, and not all people are artists, but all may learn to dress appropriately.

There must be fitness in form, material and color to the wearer, and to the conditions of time, place and occasion on which the various articles of dress are worn.

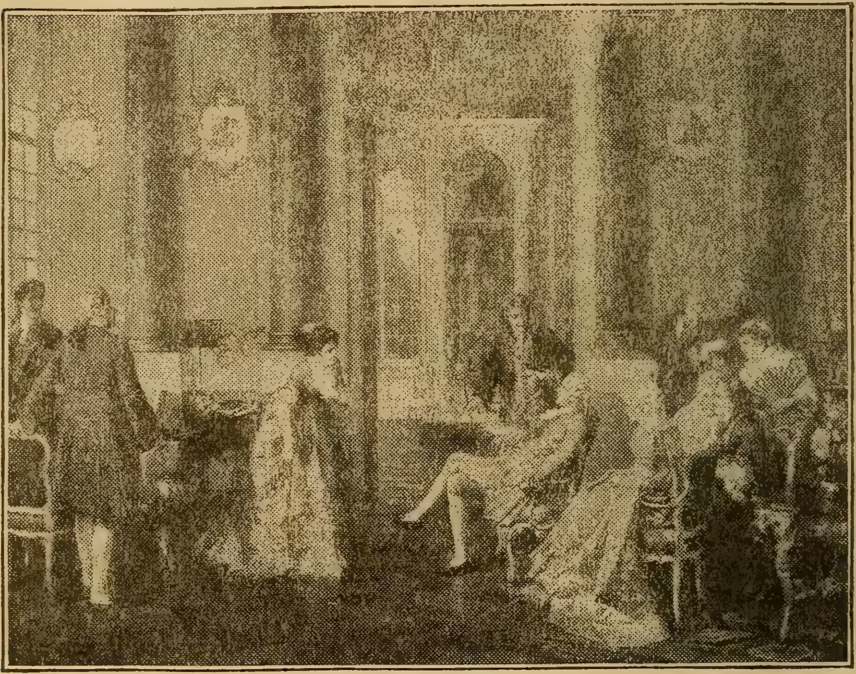
A person of refinement would rather follow than lead a fashion.

Dress should accord with one's pecuniary means and social position.

One's costume should be suited also to one's work. Flounces and drapery are as out of place in the kitchen as would be the long gingham apron in the parlor. Trailing skirts, graceful as they may be in the drawing-room, are not appropriate for the street and office, besides being a menace to health and cleanliness.

No two persons can dress exactly alike unless two can be found who are just alike in physical and mental character.

What we need is to get rid of the absurd tyranny of fashion, so that what is becoming to each person, whether man or woman, may be worn without social outlawry or unfavorable comment.



COURT DRESS OF THE SIXTEENTH CENTURY.

Fashion's Tyranny.—Fashion has many things to answer for. More evil is wrought by want of thought than in almost any other way and what is called "fashion" has suffered this.

No matter how absurd a thing is so long as it is the fashion. What the "trusts" are in the commercial world, "fashion" is in the social world. It stands in the way of social and economic reform.

Of tight lacing Miss Willard said that the amount of force exerted at a given moment to compress the waists of women by artificial methods would, if aggregated, turn all the mills between Minneapolis and the Merrimac. Let us hope her statement an exaggerated one.

However that may be, public sentiment is awakened on this subject and our girls are becoming enlightened as to the use and abuse of the corset.

The Corset in Disfavor.—The corset and kindred abominations are on the wane. Our school girls are learning that beauty in the body is that which was found there in original creation, as God made it. Henceforth for them the muscles which God made for support will be allowed to perform their duty and not be pressed out of place. An aroused intelligence can prepare the way for a rational dress, and such a dress need not be devoid of grace and beauty.

Things to be Avoided.—Were flimsy slippers, low-necked dresses and shoulder sleeves discarded, sickness and colds would be out of fashion.

But the signs of promise are increasing. The schools and colleges with their gymnasiums and physical culture classes are the leaven that is working.

A girl who has discarded the corset and the high-heeled shoe and who has donned the bicycle or gymnasium suits will scarcely return to her former discomforts. She is learning that beauty and utility may be combined.

"What man of sense wants to marry a dressmaker's lay-figure, or a bundle of aches and pains wrapped up in fancy dry-goods?" is the way a sensible young man puts it.

Injurious Results.—One of the greatest injuries that come from wearing tightly-laced corsets is the compression of the ribs. The unyielding steel and bones will not permit a variation in the waist measure as a deep breath is inhaled or expelled.

The healthful corset, or waist as I should call it, is one that expands or contracts with each respiration of the wearer. Such a waist may have a stiffly corded front if desired, and elastic bands on either side. With an increased breathing capacity the lungs and chest are sure of development if proper attention be given them.

Woolen underwear, hygienically speaking, is not so good for all-around purposes as cotton or linen, the latter, if meshed, being preferable. If one perspires readily he will chill as readily when wearing woolen underwear, as it holds the moisture, thus keeping the surface of the body damp.

High collars, besides interfering with the proper pose of the head and the lines of the neck, are harmful from a health point of view. The neck muscles are strained, and, incidentally, the cords of the neck and shoulders. If too high in front they impede circulation and are said to account for much of the impaired eyesight now so prevalent. Tight collars will often cause headache.

All clothing should be so adjusted to the body as to give perfect freedom to every organ. All parts of the body should

AN EARLY MORNING OUTING.

be kept equally warm, and the clothing should be carried with the least possible effort.

The Outer Dress.—In color, unity of tint gives repose—if somber, gravity, but if light and clear, then a joyous serenity. Variety of tint gives vivacity, and if contrasted, brilliancy.

Hat trimmings or colors worn near the face, change its color. To trace the change clearly we must know the cast of the complexion.

Blonde and Brunette.—We recognize two general divisions, light and dark, which are known as blonde and brunette.

In the blonde the skin is light with variable tinges of red, the color of the hair is a mixture of red, yellow and brown. The eyes of blue are complementary to the orange-brown hair.

In brunettes the hair and eyes are black, and the skin dark, or of an orange tint. The red of a brunette is deeper than that of her blonde sister. The same color would affect these two styles of complexion very differently.

Harmony of Color.—A green setting in bonnet or dress throws its complement of red upon the face. If the complexion be pale and deficient in ruddy freshness, or admits of having its rose-tint a little heightened, the green will improve it, though it should be delicate in order to preserve harmony of tone. But green changes the orange hue of the brunette into a disagreeable brick-red. If any green at all be used, in such case it should be dark. For the orange complexion of brunette the best color is yellow. Its complementary, violet, neutralizes the yellow of the orange and leaves the red, thus increasing the freshness of the complexion. If the skin be more yellow than orange, the complementary violet falling upon it changes it to a dull pallid white. Blue imparts its complementary orange, which improves the yellow hair of the blondes, and enriches white complexions and light flesh tints.

Blue is therefore the standard color for a blonde, as yellow is for a brunette. But blue injures the brunette by deepening the orange, which was before too deep. Violet yellows the skin and is inadmissible except where its tone is so deep as to whiten the complexion by contrast. Rose-red, by throwing green upon the complexion, impairs its freshness. Red is objectionable, unless it be sufficiently dark to whiten the face by contrast of tone. Orange makes light complexions blue, yellow ones green, and whitens the brunette. White, if without luster, has a pleasant effect with light complexions; but dark or bad complexions are made worse by its strong contrast. Fluted laces are not liable to this objection, for they reflect the light in such a way as to produce the same effect as gray. Black adjacent to the countenance makes it lighter.

Becoming Colors.—Women with sallow complexions should wear such shades as dark red, pink, light yellow and cream. If pale as well as sallow, deeper tones of similar colors are most becoming. If rosy and clear, almost any shade may be worn. Navy blue brings out all the lines on a face, but toned up with cardinal or deep rose pink the trying effect of the blue is offset.

Form and Size.—Light colors are more suitable to small persons than to large ones, as they increase the apparent size.

Tall women should not wear dresses with longitudinal stripes, as they will make them appear taller than they really are. Flounces and stripes running around the dress have an opposite effect, and should be avoided by short persons. Simplicity and long, unbroken lines give dignity, while complicated and short lines express vivacity. Curves, particularly if long and sweeping, give grace, while straight lines and angles indicate power and strength.

Ornaments.—Aside from the dress itself, ornaments should be very sparingly used—at any rate, the danger lies in overloading oneself, and not in using too few. A young girl, and especially one of a light and airy style of beauty, should never wear gems. Simplicity is her charm.

CHAPTER V

LOVE, ADAPTATION AND COURTSHIP

SECTION ONE—LOVE

"As unto the bow the cord is,
So unto the man is woman;
Though she bends him, she obeys him,
Though draws him, yet she follows;
Useless each without the other!"
Thus the youthful Hiawatha
Said within himself and pondered,
Much perplexed by various feelings,
Listless, longing, hoping, fearing,
Dreaming still of Minnehaha,
Of the lovely Laughing Water,
In the land of the Dacotahs.
"Wed a maiden of your people,"
Warning said the old Nokomis;
"Go not eastward, go not westward,
For a stranger, whom we know not!
Like a fire upon the hearth-stone
Is a neighbor's homely daughter,
Like the starlight or the moonlight
Is the handsomest of strangers!"
Thus dissuading spake Nokomis;
And my Hiawatha answered
Only this: "Dear old Nokomis,
Very pleasant is the firelight,
But *I* like the starlight better,
Better do I like the moonlight!"
—*Longfellow*.

Love is Sunshine.—Men and women have been repeating the story of Hiawatha and Minnehaha and learning that

"Love is sunshine, hate is shadow,
Life is checkered shade and sunshine."

And fond parents with tearful eyes stand in the doorway of the old home, murmuring as did the ancient arrow-maker whom our own tuneful Longfellow makes to say:

"Thus it is our daughters leave us,
Those we love and those who love us!
Just when they have learned to help us,
When we're old and lean upon them,
Comes a youth with flaunting feathers,
With his flute of reeds, a stranger

Wanders piping through the village,
Beckons to the fairest maiden,
And she follows where he leads her,
Leaving all things for the stranger!"

Nature's Example.—Some observant writer has said: "It is just as right and natural for young people to think and talk about being married as it is for birds to sing and flowers to blossom." Carrying the suggestion still farther, we note that the merry songster selects his willing mate and together they build their home and raise their birdlings; the flowers bloom, pollen seeks pistil and luscious fruit results. So nature acts and speaks in both plant and animal kingdoms. In the human family love is the basis of such a union.

ROMEO AND JULIET.

"Love is a celestial harmony,
Of likely hearts composed of star's consent,
Which join together in sweet sympathy,
To work each other's joy and true content."
—*Spenser.*

What is Love?—An eminent physician who has made a scientific study of love, says:

"There is known to man and experienced by some, pure, true love; and it is as much above the mere base, brute lust that dwells in the loins as heaven is above hell. Love has its seat as lust has its seat, in the bodily man, but they are not the same. In woman, love the more prevails, and lust in man. To bring it about that love shall altogether prevail in both, is to bring one of the greatest of blessings to mankind.

"Love is the sense of the presence of one's harmonial temperamental mate. The harmony may be only partial, or it may be complete and perfect. So the love may be weak and flighty, or it may be strong and firm. But whether weak or strong, wherever love is, it dwells in the temperament, it lives and moves and has its being there; and, throned in the heart, it is appointed to full dominion over the loins, the home of lust. If this is so, then one of the most precious of the knowledges which a human being can gain is to know how to know when true love is awakened. And this knowledge I will now endeavor to impart.

"**Harmony of the Temperaments in True Marriage.**—There are in mankind, at least in the more highly developed races, three sex centers, one in the loins, one in the 'heart,' and one in the brain. The first is the sex center of 'the flesh,' or animal man; the second of 'the spirit' or spiritual man, and the third of the mind or intellectual man. The chief function of the animal sex is the continuance of the race; that of spiritual sex is the promotion of love; that of mental sex is the advancement of thought.

"Love dwells primarily in spiritual sex and springs therefrom. Spiritual sex blends in with and manifests itself through temperament, and temperament centers upon the 'heart.' The 'heart' when spoken of as the seat of love does not mean the physical organ of that name, but something quite different.

"**Solar Plexus.**—There are in the cavity of the body bunches or knots of nerves, through the spontaneous action of which the functions of the bodily organs are carried on. The greatest of these, and the one upon which the others all unite, lies back of the navel, and is called in scientific language *the solar plexus*. This is the great emotional center of man, and is the real organ which is meant by the term 'heart' as the seat of love. In the Bible phrase, 'His heart melteth in the midst of his bowels,' this location which I have pointed out is clearly indicated. In general, also, the whole region from the navel to the breasts is signified by this term. As the physical heart is powerfully affected by this great nerve center, and as the ancients did not have skill enough in anatomy to distinguish the solar plexus, it is easy to see how the name of the physical organ came to be applied to this emotional center, which is really something quite other.

"The solar plexus is the throne of love. There this deep and tender emotion centers, and from thence it radiates. But

PROPER RELATIONS OF CHILDREN.

also temperament centers there. Temperament is the quality of the vitality, as mind is its form. Love is not in the brain. Love is not in the loins. Love is in the temperament as centering upon the solar plexus. So 'falling in love' is awaking to the consciousness of the presence of one's temperamental, harmonial mate.

"**The Mating Period.**—In some countries young people are continuously guarded by relatives during their mating period. While under American methods many young people would resent this course, it is the better way to insure their future happiness, and to save them from being swept blindly along by love or fancy until too late to repair the mischief wrought.

"**Mutual Love.**—Sometimes it will come swiftly, in a day or even an hour; sometimes slowly, in months or years. There is the same hunger in each for the presence of the other one. To each the other is their 'sweetheart,' because each has awakened in the other a honiedness of heart never known before. There is the same desire for the other only, to the exclusion of all others. There is the same deep sense of ecstasy and delight in each while with the other, and desire that the two remain together through life.

"**Love's Influence.**—There is the same sense of modesty, so that the coarsest and lowest man wishes to behave uprightly to 'his girl.' And all this abiding, overwhelming, melting sweetness springs forth from the region I have indicated and radiates through the person's whole body, soul and spirit, and gives new tone, quality and power to the whole being. In women all this is so high, intense and pure that hardly a word need to be written for them. I write for men. How to know one's true mate, not so much by scientific reading of the exterior appearance, although this has its place, but in great measure by that keen, inward sense through which one feels quickened and thrilled to the last fiber of life by the presence of one's other half.

"**The Priceless Knowledge.**—And this priceless knowledge I am now trying to impart to such as are able to receive it. The first part is this experience in the 'heart.'

"The second part of the knowledge is that the more powerfully this emotion is felt the more the loins will be subdued and in abeyance, and the more the thought of marriage will arise rather than the thought of the mere animal union. This victory of the heart over the loins is in certain views the greatest victory that can be achieved in man. It changes the whole man to the center of his life. It develops man into a spiritual being from the sex side. The normal woman is already in this state. Just in so far as she bears rule in the family relation she strengthens the development of this state in man.

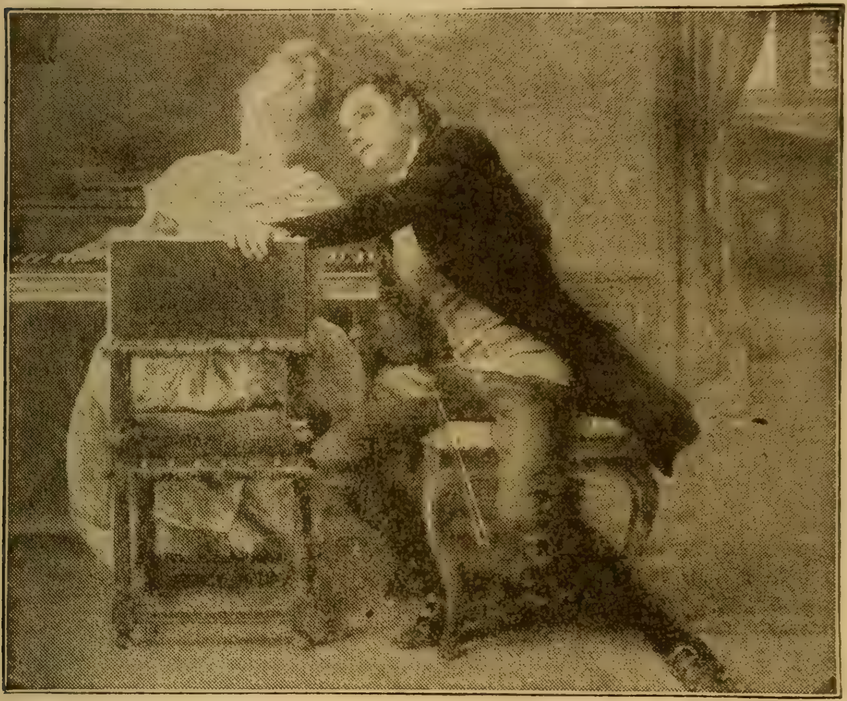
"To sum up. True love is the expression of temperamental harmony. Its throne is in 'the heart.' It springs from and tends to give the mastery to the spiritual side of man. As it prevails the heart subdues the loins. Its absolute raw is, virginity for the unmarried; the woman ruling over the man for the married; motherhood the supreme duty of the wife. Thus lived, true love sweetens the man and the woman for life, and they grow sweeter through to the end. Thus a nectar stream ever flows in the heart, no matter what outward troubles may assail.

"**Mental Mating.**—Mental mating centers on the brain as the other centers on 'the heart.' This gives a harmony, not identity of tastes and views. The two may not think in the same way, but they will arrive at very much the same conclusions. Or if they are inclined to differ, then they will have such intellectual sense that the one having the sounder judgment will prevail. The one of less excellent mind will delight in the superiority of the other's mind, and be pleased to get the help of it. Each will see where the other has mental excellencies, and will seek to call them out, and give them full play. In large measure they will have tastes alike, or similar, or counterparts. In their ways of working their minds will be co-equal, or co-ordinate. Their hearts are blended into one. Their minds work together in a harmony."

HARMONY.

Love Begets Love.—If you love truly, wisely and deeply, you possess the secret, the charm. Love will express itself in word, look and deed when in the presence of the loved one. Love will make itself felt and awake the slumbering love of the other. It may be a sudden awakening or a gradual one according to temperament.

Qualities of a Man's Love.—Would you, a man, call out the love of a woman, you must first love that woman with an absorbing love. Your devotion, kindness and steadfastness, coupled with your dignity, bravery and manliness, will win her admiration, and such qualities backed by your love for her will most likely beget in her the response your whole being so ardently desires.



THE SAME SWEET, OLD STORY.

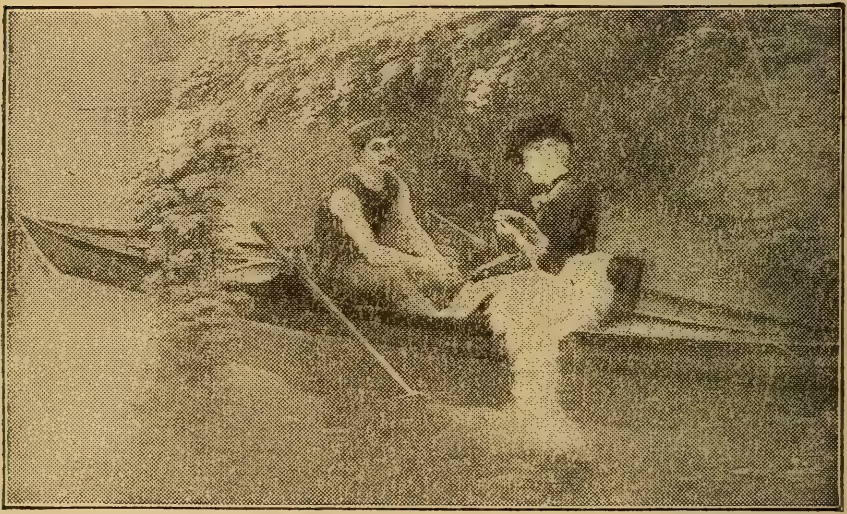
Qualities of a Woman's Love.—Would you, a womanly woman, seek the love of him whose very tones refresh your wearied senses? Then with gentle modesty let your intellectual graces unfold themselves in features, voice and kindly deeds. The azure blue of heaven is less pleasing to man than a modest, courteous woman who has sensible ideas and who says them in a sensible way.

Her words of sympathy uttered in low, musical tones which vibrate with a heart-felt tenderness speak to him in a language to which his own heart replies.

He knows not the charm that so bewitchingly enchants him, he can not place it nor name it; he is satisfied in its presence and seeks to prolong its stay. Such a love is sweet as the odor of flowers, pure as the water of an ever-flowing fountain, and stronger than the intertwining branches of the swaying forests.

Man's love for woman changes his whole nature to more lofty ideals. He becomes more tender to all God's creatures, the little child, the blooming plant, the crawling worm is noticed with a new interest.

A lady once remarked of a young man who leaned over the cradle to caress her babe: "That fellow is in love, I'm sure. He is so gentle and tender with the children."



WHERE NATURE ADDS HER CHARM.

Woman's love is her all, her whole existence. In it she lives, moves and has her being. It surmounts selfishness, rises above misfortune, comforts in sickness and distress, caresses in old age, and ministers till death separates.

Love's Effect.—Love makes people look younger and happier. It brings health and vigor to the frail. It makes women industrious and prudent, more patient and trusting. It makes men more economical and careful of means; it brings to the surface his strongest points in character; he walks with a firmer tread and a lighter heart because of the new-born passion within.

That life which is devoid of love is not satisfactory because incomplete. It fails of its chief end.

Love and Marriage are the Normal Conditions of Life.—Single life is forced upon many of both sexes because of peculiar conditions and circumstances, but theirs is not the ideal life. There is in store for such as these who are not permitted to enjoy the fruits of love a hope for the future which enables them to bear with fortitude the present.

What Men Need Wives For.—It is not to sweep the house and make the beds and darn the socks and cook the meals, chiefly, that a man wants a wife. If this is all he wants, hired servants can do it cheaper than a wife. If this is all, when a young man calls to see a lady, send him into the pantry to taste the bread and cakes she has made; send him to inspect the needlework and bedmaking, or put a broom into her hands and send him to witness its use. Such things are important and the wise young man will quietly look after them. But what the true man most wants of a wife is her companionship, sympathy and love. The way of life has many dreary places in it and man needs a companion to go with him.

A Helpmeet.—A man is sometimes overtaken by misfortune; he meets with failure and defeat; trials and temptations beset him and he needs one to stand by him and sympathize. He has some stern battles to fight with poverty, with enemies and with sin, and he needs a woman that, while he puts his arm around her and feels that he has something to fight for, will help him fight; who will put her lips to his ear and whisper words of counsel, and her hand to his heart and impart new inspirations. All through life—through storm and through sunshine, conflict and victory, through adverse and favorable winds—man needs a woman's love. The heart yearns for it. A sister's and a mother's love will hardly supply the need. Yet, many seek for nothing further than success in housework. Justly enough, half of these get nothing more. The other half, surprised above measure, obtain more than they sought. Their wives surprise them by bringing a nobler idea of marriage and disclosing a treasury of courage, sympathy and love.

Characteristics of Woman.—There is beauty in the helplessness of woman. The clinging trust which searches for extraneous support is graceful and touching. Timidity is the attribute of her sex; but to herself it is not without its dangers, its inconveniences and its sufferings. Her first effort at comparative freedom is bitter enough; for the delicate mind shrinks from every unaccustomed contact and the warm and gushing heart closes itself, like the blossom of the sensitive plant, at every approach.

Man may at once determine his position and assert his place; woman has hers to seek.

The dependence of woman in the common affairs of life is, nevertheless, rather the effect of custom than necessity. We have many and brilliant proofs that, where need is, she can be sufficient to herself and play her part in the great drama of

A BASHFUL BEAU.

existence with credit, if not with comfort. The yearnings of her solitary spirit, the outgushings of her shrinking sensibility, the cravings of her alienated heart are indulged only in the quiet holiness of her solitude. The world sees not, guesses not, the conflict; and in the ignorance of others lies her strength.

The secret of her weakness is hidden in the depths of her own bosom; and she moves on, amid the heat and hurry of existence, and with a seal set upon her nature to be broken only by fond and loving hands, or dissolved in the tears of recovered home affection.

Each for the Other.—Thus we see that the strong man is most secure who has the sympathy of a virtuous, faithful wife, and a frail, timid woman needs the strong arm of manhood upon which to lean. Each needs the other, and God created them in pairs.

What Eminent Men Say of Marriage.—*Benjamin Franklin* wrote to a young friend upon his marriage: "I am glad you are married, and congratulate you most cordially upon it. You are now in the way of becoming a useful citizen, and you have escaped the unnatural state of celibacy for life—the fate of many here who never intended it, but who, having too long postponed the change of their condition, find at length that it is too late to think of it, and so live all their lives in a situation that greatly lessens a man's value. An odd volume of a set of books bears not the value of its proportion to the set. What think you of the odd half of a pair of scissors? It can't well cut anything—it may possibly serve to scrape a trencher!"

Dr. Johnson says: "Marriage is the best state for man in general; and every man is a worse man in proportion as he is unfit for the married state."

Of marriage, *Luther* observed: "The utmost blessing that God can confer on a man is the possession of a good and pious wife, with whom he may live in peace and tranquillity, to whom he may confide his whole possessions, even his life and welfare." And again he said: "To rise betimes and to marry young are what no man ever repents of doing."

Shakespeare would not "admit impediments to the marriage of true minds."

The cares and troubles of married life are many, but are those of single life few? The bachelor has no one on whom in all cases he can rely. As a rule, his expenses are as great as those of a married man, his life less useful, and certainly it is less cheerful.

In more recent times the French statesman, *M. Guizot*, says in his "Mémoires": "What I know to-day, at the end of my race, I have felt when it began, and during its continuance. Even in the midst of great undertakings domestic affections form the basis of life, and the most brilliant career has only superficial and incomplete enjoyments if a stranger to the happy ties of family and friendship."

Not long ago, when speaking of his wife, *Prince Bismarck* said: "She it is who has made me what I am."

De Tocqueville, in a letter to a friend, says: "I can not describe to you the happiness yielded in the long run by the habitual society of a woman in whose soul all that is good in your own is reflected naturally, and even improved. When I say or do a thing which seems to me to be perfectly right, I read immediately in Marie's countenance an expression of proud satisfaction which elevates me; and so when my conscience reproaches me her face instantly clouds over. Although I have great power over her mind, I see with pleasure that she awes me; and so long as I love her as I do now I am sure that I shall never allow myself to be drawn into anything that is wrong."

Luther, speaking of his wife, said, "I would not exchange my poverty with her for all the riches of Crœsus without her."

Celibates.—"It is true that there have been memorable celibates, but in the main the world's work has been done by the married. Fame and reward are powerful incentives, but they bear no comparison to the influence exercised by affection.

"A man's wife and family often compel him to do his best; and, when on the point of despairing, they force him to fight like a hero, not for himself but for them. Curran confessed that when he addressed a court for the first time, if he had not felt his wife and children tugging at his gown, he would have thrown up his brief and relinquished the profession of a lawyer.

"Certainly there are some men and women who, without wives or husbands, are marriage-made in the sense of having their love and powers drawn out by interesting work. They are married to some art or utility, or instead of loving one they love all. When this last is the case, they go down into the haunts of evil, seek out the wretched and spare neither themselves nor their money in their Christ-like enthusiasm for humanity. But the luxury of doing good is by no means confined to the celibate. On the contrary, the man with wife and children in whose goodness and happiness he rejoices may be much better prepared to aid and sympathize with the erring and the suffering. The flood-gates of his affections may have been opened, and he may have become receptive to influences which had upon him beforetime little or no effect."

Marriage Does Not Free One from Care and Anxiety.—"Let mothers teach their daughters that although a well-assorted marriage based upon mutual love and esteem may be the happiest calling for a woman, yet that marriage brings its peculiar trials as well as special joys, and that it is quite possible for a woman to be both useful and happy, although youth be fled, and the crowning joys of life—wife and motherhood—have passed her by or been voluntarily surrendered."

Those who would avoid care and anxiety must shun the world.

CHOOSING A WIFE

"Whether a man shall be made or marred by marriage greatly depends upon the choice he makes of a wife. Nothing is better than a good woman, nor anything worse than a bad one."

A wise marriage leads a man to the noblest, truest, fullest and best life. Thousands of men owe all their success and prosperity to their choice of a wife. She has been the good angel of destiny. A man wants a wife who will make something of him, whose influence will ever inspire him to do his best. What kind of a woman should she be?

For one thing, a man does not want a mere toy wife, something too fine, too ethereal for real use. She should be a woman who can bear her share of the burdens, who can endure toil and sacrifice, and grow all the lovelier meanwhile.

A Cook.—Again, the wife a man chooses should be a good housekeeper. To some romantic young lovers this will seem a very prosaic feature to put into the picture. But never mind; they will not be many weeks married before they will come down out of the clouds to walk on common earth and then, alas! if the poor woman does not prove a good housewife!

There are women who live in sentimental dreams, neglecting meanwhile the duties that lie close to their hands. Good breakfasts, dinners and suppers, good bread, good coffee—in a word, good house-keeping. Far more than any young lovers dream does wedded happiness depend upon just such unromantic things as these.

A Worker.—One of St. Paul's special counsels for young women is that they be "keepers at home," as our common version renders it, and that is good, too; but in the Revised Version it reads "workers at home;" that is, the place of a young wife's most sacred duty is in her own home. No doubt women have a wide field for Christ-like usefulness in ministering to human need and sorrow outside; but in performing such ministry, however beautiful and noble, a wife should never neglect her divinest duties, which lie within her own doors.

Disposition.—Another suggestion is that in choosing a wife a young man should look for a woman of sweet temper. Nothing else can take the place of love in a home, nothing else can supply its lack. There are many women who have so much of the spirit of love and gentleness that they fill their homes as with the fragrance of heaven and the calm and peace of God.

Companionable.—In choosing a wife a wise young man will seek for one who will enter with zest into all his life, who will stand close beside him in the day of struggle and adversity and who will ever inspire him to noble and brave things.

Godly.—Once more, it needs no argument to prove that a young man should choose none but a good woman for his wife.

A worldly man may imagine that he does not want a pious wife; but, if the truth were confessed, even such a man, down deep in his heart, would rather have for his wife a woman who reads her Bible, prays and lives a godly life, than one who is prayerless, godless and worldly. Religion adorns and beautifies a woman's character, clothing it with tender grace. Even a prayerless man feels safer in his home if his wife kneels morning and night before God.

CHOOSING A HUSBAND

In their haste to be married many women are too easily satisfied with the characters of men who may offer themselves as husbands. They aim at matrimony in the abstract; not *the* man, but any man. A young woman should be able to find in the husband of her choice honor, purity, strength and courage. Wise judgment in matters pertaining to business and affairs of the world in general, is also a desirable quality. He should have ability to excel in the work he has chosen for life, he should be in all things worthy of her respect and confidence. Those qualities and principles which a woman would have perpetuated in her children, she should find in her chosen husband.

Don't Go It Blind.—A young woman should take pains to find out the defects and weaknesses of the man who would make her his life companion, for defects he will have, else he is not of the earth, earthy.

One lapse from virtue may taint the life of both, and the children that come into their home. Of all things he should possess a pure moral character. What is his inheritance in this direction? is another question of vital importance. What are his ideas of conducting a home? Does he consider his wife to be an equal partner in the home-firm or only a subordinate? Is he energetic and economical? are other questions which a prudent woman will weigh carefully before she commits her happiness into his keeping.

Look Ahead.—A woman should know something of her lover's personal habits. Should she find some of them undesirable, she ought to know whether she will be able to possess her soul in patience, should she not be able to correct them by example and gentle persuasion.

COMPLETE HARMONY

Rev. Jesse Jones describes the following as a case of complete harmony for these two:

The Wife.—The woman was a pure bilious temperament, and as perfect a specimen as I ever saw. By a "pure temperament" I mean a case where only the one temperament shows, though the others, of course, are rudimentarily present. She was rather above medium height, five feet six or seven inches, swarthy complexion, black hair and brown eyes, a Roman nose, retreating forehead, strong but not very wide jaw, and thoroughly muscular. She was a woman with controlling power, of great and tireless energy, who never was sick, who went into a pioneer's log hut with her first babe in her arms, and lived to be the master woman in society and property in that vicinity. She was of sound judgment, high ambition, progressive mind, an indefatigable worker, prudent, skilful, all that a farmer's housewife could be. If there was any fault in her make-up or life I never saw it or heard it told.

The Husband.—Her husband was about her height; I should say not more than an inch taller, was as large around his waist as under his arms, was a sturdy pillar of a man, slow, plodding, close, ever-working, cautious, saving; who began in the woods with nothing, and became a large, forehanded farmer. He had blue eyes, and what would have been a cannon-ball head, only that it was a little too high for the width, a light complexion but not sandy, very thin, fine light hair, light but not at all yellow, nose rather short, jaw square, and lips firmly set. There was much of the ox and something of the mastiff in him.

A Love Match.—The marriage of these two people was strictly a love match. Both were a week's travel away from home when they met, and there they were married. No kinsfolk interfered with the course of true love. Nature had its unhindered way. Both lived to a good old age, to three score and ten or past, and lived in faithful love. Each ruled with full sway in his or her own sphere, and neither ever trenched upon the field of the other, but guarded it carefully; and each did their full share in their own sphere in full co-ordination with the other. Thus mutual love, respect and co-operation were complete in them, and went on in their lives unbroken to the last.

The Children.—They raised nine children to mature years. Some were of uncommon excellence, and where in one or two cases there were physical defects it was because the mother was much over-worked before they were born. Five of these are now living, and in forty years there has been to my knowledge few if any sick days. Of the four who have died, three died of sudden, violent diseases, one of yellow fever, one of bilious fever (both in the South), one of scarlet fever (while with child), cases which in nowise count against our teaching. Only one died legitimately, and she, after a most active life, died when past sixty, worn out because she never had more than half a life, from the over-work of her mother before she was born. This was an ideal, typical marriage, as perfect in its results as the ignorance of those times would allow, and man or woman of the type of this woman should seek a mate of the type of this man.

A Defective Case.—The woman is of precisely the same type as the woman just described, only she is larger every way, five feet nine or ten inches high, and massive in proportion. But her husband, though largely lymphatic, is on a bilious foundation. He is also large boned. Both being large boned, bilious, though the non-vital (the lymphatic) in the man is enough so that their children have all lived but one, I believe, yet none of them is equal to the mother in any respect, and one of them, I think, will not live to be fifty, perhaps not forty; while two of the daughters in the other case were clearly superior to either parent. And now I deduce this rule: For the best children partners must always be on opposite vital foundations.

A Sterile Marriage.—I will describe one more case, in which the two parties were perfectly neutral to each other, and therefore sterile and childless.

A man spoke to me one day and said, "I would like to talk with you." He asked me to explain the grounds of my teaching, which I did as I have done in this article. He then said, "How would it be with me in case I should have married a wife who was tall and slender, with snapping black eyes?"

He himself was tall, say five feet eleven inches, large boned, square shouldered, spare, black hair, dark but not swarthy complexion, light brown eyes, prominent cheek bones, retreating forehead—a clear case of pure bilious temperament. We had been speaking of Napoleon and Josephine, and why they were childless together; and I went on to show him that substantially the same conditions existed in his case, that he and his wife were so closely alike as to be neutral to each other, and therefore sterile and childless. He told me that they had been married fourteen years and had never had a child, and that he had had no idea why; but now he could see that the case was the same with them as with Napoleon and Josephine. It was plain to see, looking at him and taking the sense of his wife as he described her, that he had married a woman who was himself intensified, idealized and femininized, and so had formed a strictly neutral marriage.

A Strange Question.—Now comes the strangest part of the story. "Well," he said, "what kind of a man ought she to have married?" Looking down a moment to think out her harmonial mate, I saw that, counting mental and physical qualities together, he must not be short, but must be tall and large boned, and I said, "He should have been tall and large boned, with yellow hair and blue eyes." Instantly he replied, "There was just such a man after her, but I got her away from him." "Well," said I, "you have made three people miserable for life." He afterward said, "Well, I married just the woman I wanted to anyway." And so, the reason for his childlessness being explained, we parted. * * * Here were a man and woman, bright, strong, active, healthy, to all human appearance exceptionally fitted to be parents but entirely infertile. I have met another case very closely like this, and the following law appears clear to me, that identity of temperaments (at least when the foundation is bilious, that is, when both parties are masculine vital in temperament) tends to sterility. The two masculines are neutral to each other. It thus appears that regard must be had to spiritual sex or sex in temperament, as well as to animal sex or sex in body in order to a complete marriage.

SECTION TWO—TEMPERAMENTS

In the discussion of love and marriage it is necessary to use the term *temperaments.* We give, therefore, a little attention to the meaning of the different temperaments.

We do not propose to enter into a full discussion, but only to give opinions of different men who have made a full study of the subject. We first quote from S. R. Wells, author of *Wedlock.*

Definition of Temperament.—Prominent among the conditions affecting the happiness of married couples is temperament; and this is one of the first things to be considered by those contemplating matrimony.

We here give a brief description of the three primary temperaments.

Temperament is a particular state of the constitution, depending upon the relative proportion of its different masses or systems of organs. We are accustomed to consider these constitutional conditions as primarily three in number.

The Motive Temperament.—This is marked by a superior development of the bony and muscular systems, forming the locomotive apparatus; in the vital temperament, the vital organs, the principal seat of which is in the trunk, give the tone to the organization; while in the mental temperament, the brain and nervous system exert the controlling power.

In the motive temperament the bones are comparatively large and broad rather than long, and the muscles only moderately full, but dense, firm and tough. The figure is generally tall, the face long, the cheek-bones rather high, the neck long, the shoulders broad, and the chest moderately full. The complexion and eyes are generally, but not always dark, and the hair dark, strong and rather abundant. The features are strongly marked, and the expression striking and sometimes harsh or rigid.

The whole system is characterized by strength and capacity for endurance as well as for active labor.

Persons in whom it predominates possess great energy and perseverance, and, in other respects, strongly marked characters. They are observers rather than thinkers; and are better suited to the field than to the council chamber. They are firm, self-reliant, constant in love and in friendship, fond of power, ambitious, and sometimes stern and severe.

This temperament in its typical form is not common among women, in whom it is modified by a larger proportion of the vital element of the constitution.

The Vital Temperament.—The vital temperament is marked by breadth and thickness of body rather than by length. Its prevailing characteristic is rotundity. The chest is full, the abdomen well developed, the limbs plump and generally tapering, and the hands and feet relatively small. The neck is short and thick, the shoulders broad, the chest full, and the head and face inclining to roundness.

The complexion is generally florid, the eyes and hair light, and the expression of the countenance pleasing and mirthful.

Persons in whom this temperament predominates are both physically and mentally active, and love fresh air and exercise as well as lively conversation and exciting debate, but are, in general, less inclined to close study or hard work than those in whom the motive temperament takes the lead.

They are ardent, impulsive, versatile, and sometimes fickle; and possess more diligence than persistence; and more brilliancy than depth. They are frequently passionate and violent, but are as easily calmed as excited; they are cheerful, amiable and genial in their general disposition.

Benevolence, hope and mirthfulness are generally well developed.

The Mental Temperament.—This temperament is characterized by a rather slight frame; a head relatively large; an oval face; high, pale forehead; delicate and finely cut features; bright and expressive eyes; slender neck, and only a moderate development of chest. The hair is generally soft and fine, and neither abundant nor very dark, the skin soft and fine, and the expression of the face varied and animated.

Sensitiveness, refinement, taste, love of the beautiful in nature and art, vividness of conception, and intensity of emotion mark this temperament in its mental manifestations. The thoughts are quick, the senses acute, the imagination lively, and the moral sentiments generally active and influential.

Balance of Temperaments.—Where either of the temperaments exists in excess, the result is necessarily a departure from symmetry and harmony, both of body and mind, the one always affecting the character and action of the other. Perfection of constitution consists in a proper balance of temperaments.

The Law of Conjugal Selection.—With regard to the proper combinations of temperament in the marriage relation, physiologists have differed, one contending that the constitutions of the parties should be similar, while others, on the contrary, have taught that contrast should be sought. It seems to us that neither of these statements expresses fully the true law of selection. The end to be aimed at is *harmony*. There can be no harmony without a difference, but there may be difference without harmony.

Woman Not Like Man.—It is not because a woman is like a man that he loves her, but because she is unlike. The qualities which he lacks are the ones in her which attract him—the personal traits and mental peculiarities which combine to make her *womanly;* and in proportion as she lacks these, or possesses masculine characteristics, will a woman repel the opposite sex. So a woman admires in man true *manliness,* and is repelled by weakness and effeminacy. A womanish man awakens either the pity or the contempt of the fair sex.

A Harmonious Difference.—This law admits of the widest application. The dark-haired, swarthy man is apt to take for his mate some azure-eyed blonde; the lean and spare chooses the stout and plump; the tall and the short often unite; and plain men generally win the fairest of the fair.

In temperament, as in everything else, what we should seek is not likeness, but a *harmonious difference.* The husband and wife are not counterparts of each other, but complements—halves which joined together form a rounded symmetrical whole. In music, contiguous notes are discordant, but when we sound together a first and a third, or a third and a fifth, we produce a chord. The same principle pervades all nature.

Effects of Like Temperaments.—Two persons may be too much alike to agree. They crowd each other, for two objects can not occupy the same space at the same time. While, therefore, we do not wholly agree with those who insist upon the union of opposites in the matter of temperament, we believe that a close resemblance in the constitution of the body between the parties should be avoided, as not only inimical to their harmony and happiness, but detrimental to their offspring. If the mental temperament, for instance, be strongly indicated in both, their union, instead of having a sedative and healthful influence, will tend to intensify the already too great mental activity of each, and perhaps in the end produce nervous prostration; and their children, if, unfortunately, any should result from the union, will be likely to inherit in still greater excess the constitutional tendencies of the parents.

The Scales Must Balance.—A preponderance of the vital element in one of the parties would tend not only to a greater degree of harmony and a more healthful influence, but to a more desirable and symmetrical development and complete blending of desirable qualities in their offspring.

A predominance of the vital or of the motive temperament in both parties, though perhaps less disastrous in its results, favors, in the same way, connubial discord and a lack of balance in offspring.

Where the temperaments are well balanced in both, the similarity is less objectionable, and the union, in such case, may result favorably, both as respects parents and children. But perfect balance in all the elements of temperament is very rare; and wherever there is a deficiency in one party, it should,

DREAMING OF THE FUTURE.

if possible, be balanced by an ample development in the same direction in the other, and *vice versa.*

Combination of Temperaments.—The three primary temperaments combining with each other in different proportions, and being modified by various causes, form sub-temperaments innumerable, presenting differences and resemblances depending upon the relative proportions of the primitive elements.

Dr. Elliot's Definition for Temperament.—Dr. Elliot defines *temperament* as a state of the body with respect to the predominance of any single quality. He says: "If one has a predominance of the vital organs, he would be classed as of the *vital* temperament; if the brain and nervous system predominates, he would be of the *nervous* temperament; if the bone and muscle system predominates, he would be of the bony or *motive* temperament."

The physical and mental powers depend as to their development on one or the other of these temperaments. If the brain is in excess, that person will be strongest mentally; if the bones and muscles are in excess, then the physical powers will be most prominent, and so on.

If all the temperaments are developed, the whole system will be strong.

Nature intended that when two persons unite in marriage, they should balance up each other's weaknesses and deficiencies so as to form one perfect whole.

Sexual Affinity.—The question to be settled in regard to any two persons of opposite sexes contemplating matrimony is, "will their characters harmonize?" We can not lay down an exact formula for its practical application to the relations of men and women, because the gamut of the mental faculties has not, like that of music, been fully determined; but we can confidently assert that affinity between the sexes depends upon certain measured differences, and that anyone who will take the trouble to become thoroughly acquainted first with himself or herself, and then with the person of the other sex with whom a union may be contemplated, there will generally be little difficulty in deciding the question of adaptation.

Religious Considerations in the Union of Hearts.—Rev. Henry Ward Beecher said: "Jacob's father forbade him to take a wife from the daughters of Canaan. Why? Because he knew that with the wife he would take the religion; that had he brought into his house the fairest and discreetest of wives, he would have brought in the cause of a long train of miseries with her. It is an old proverb, that a man is what his wife will let him be; and old Isaac was a wise man when he said, 'Don't go among the Canaanites to get a wife.' Canaan nowadays is everywhere. It is every house where there has been no family prayer, where mammon is God; wherever there is a godless household, there is the land of Canaan. A man that marries a good wife has very little more to ask of the Lord till he dies. A good wife is a blessing from the Lord, and there are very few blessings that he gives now or hereafter that are comparable to it. And marriage is a thing not heedlessly to be rushed into, but slowly, discreetly. It is anything but a fancy or a calculation. It is a matter of moral judgment and duty as high as any duty that lifts itself between you and the face of God. * * * It is not wise to mix religions. A man who marries a wife of a different religion from his own, thinking afterward to bend her to his views, has very little idea of timber."

SECTION THREE—COURTSHIP

Courtship Delightful.—Courtship is most delightful. That is why so many young people court with their eyes shut. But they *should* keep their eyes open. If careful study of each other shows a lack of mutual respect, intellectual sympathy, or moral and religious harmony, they would better quit at once.

What the Young Man Should See.—The young man should not be so blinded by the young lady's charms that he can not study her personal habits closely. She must be perfectly clean and sweet about her person.

Notice her teeth, neck, hair and nails. Her clothes must be clean and neat, especially collars and cuffs, and the like.

She should be orderly in her habits; and the young man is wise who discovers, accidentally, of course, how she keeps her own room and belongings. If things have a way of roosting where they light, she is a very good girl to let alone. Last, but not least, she must be a good cook. If she's a cheerful helper about the house, good to her mother, and can get up an appetizing square meal out of "scraps," she's a jewel worth winning.

What the Young Lady Should See.—Appearances are often deceptive. A young lady should take no chances. Through some discreet friend, she should investigate her lover's habits. If his record is not clear, better let him go. No man who drinks, or swears, or gambles, or associates with lewd persons, is fit to become the husband of a pure woman. Any woman who marries such a man is selling herself into bondage.

No self-respecting young woman will be too easily won. She will be so thoroughly in earnest, that a young man must prove his worth before he can gain her confidence. He will respect her the more, whether he win her or lose her.

A young lady should promptly resent any attempt at familiarity. She should not accept presents. Nothing should be allowed that she would not have her mother know.

Practice No Deception.—If either party be doubtful or dissatisfied, better quit. Never go so far as to deceive the other. When the young man is fully satisfied, and certain of the lady's regard for him, he should not hesitate. In justice to the lady, as well as himself, he should settle the matter by a manly, straight-forward offer of marriage.

If he has been courting with his eyes open, he need not fear refusal. A worthy young woman will not encourage him to this extent, and then refuse him.

LOVE'S MISSIVE.

Engagement.—An engagement should be frank and open, with the full knowledge and consent of the lady's family. The lover ought to present her with a ring, which she should proudly wear as notice to her friends.

The young man should be on the best of terms with the family of his promised wife. He should not intrude in family

FATHER AND DAUGHTER.

affairs, yet he must meet them half way when they are disposed to count him in.

The family of the young man should seek to become acquainted with his future wife, and she should meet their advances cordially. They may invite her to visit them, and it is perfectly proper for her to accept.

Sensible Courting.—It is natural and right that the young people should be together as much as possible. To this end they will attend church and places of amusement, and the young man should have regular evenings for calling upon her. While sentiment will naturally have a good deal to do with their conversation, it should not be wholly devoted to "gush." Sentiment is an excellent seasoning, but they may get tired of it in the forty or fifty years they hope to be together. Talk sense—part of the time.

CHAPTER VI

ETHICS OF THE UNMARRIED

By T. W. Shannon.

Author of *Perfect Manhood, Perfect Womanhood, Heredity Explained, Guide to Sex Instruction, etc.*

SECTION ONE—DANGERS OF IGNORANCE

All normal human beings possess a social nature. No one can attain his highest efficiency in life, if the development of his social nature is neglected. The social nature receives its normal development, when from childhood, the sexes are properly associated. This is due to the fact that the social nature is very closely related to sex. Then, brothers and sisters should play and associate with each other. Where there are only boys, or only girls, in a family, they are at a social disadvantage. Boys and girls of a community, with the consent of their parents and the supervision of a matured and congenial friend, should occasionally meet and have their games and plays together. Nature would indicate, also, that they be educated together in the public schools and colleges. As young people, on appropriate occasions, they should meet as friends in a social way. Not isolation, but a sane education of the sexes in regard to their social relations and moral obligations, will safeguard their virtue in single and married life. If, perchance, in the exercise of social friendship, two, with mutual and reciprocal affinities, should discover that they are complemental halves of what God and nature have planned to be one social unit, friendship will become courtship and deepen into love; love will lead to a happy marriage and make them one for life.

It is not the purpose of the author to interfere with nature's social order, but to make clear what is not natural. It is not his purpose to keep young people from associating with each other, but to make their association safe and wholesome. It is not his thought to suppress the emotions of love in the hearts of lovers, but to aid them in the safe and intelligent exercise of this kingliest and queenliest function. It is not his purpose to rob young people of momentary pleasures, but to teach them how to live in their social relations so that they may enjoy lifelong pleasures.

In this article, the author has endeavored to express each proposition and conclusion in the most non-technical, concise

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A SERIOUS CONSIDERATION.

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LOOKING INTO THE DISTANCE.

SHE: "Those glasses bring things very near."
HE: "I can even see our wedding day. Can't you——?"

and chaste language consistent with clearness. Doubtless his views will be a surprising revelation to many readers. He will not be surprised if a few "boy struck girls" and "girl struck boys" are disposed, for personal reasons, to take issue with his views. Neither, will he be surprised, if some Pharisaical and Puritanic prudes should become hysterical in their pious indignation. After many years of vital touch with the social problems of young men and women, who have by correspondence and personal interviews, confided their problems, their temptations and their defeats to the author, he feels justified in presenting his views on this social problem for the sincere and thoughtful consideration of teachers, reformers, ministers, parents and young men and young women of all lands.

During a series of lectures on social and reform topics at an Eastern Chautauqua, the author used the word "spooning" to illustrate a very common social custom among both the engaged and the unengaged. A cultured lady, whose likeness he afterward discovered in a group picture of a masquerade ball, expressed very great surprise at hearing a Chautauqua lecturer use such an unclassical word as "spooning."

Then he went on a literary expedition among colleges and universities in search of a more classical word. In the East he found the people using the word "mussing," in the North the word "fussing," in the Central States the word "catting." Not being able to tell which of these words is the most classical, he has decided to be practical rather than classical in his style, and will use the word "spooning."

Importance of Sex Knowledge.—Anglo-Saxon prudery and mock modesty, until very recent years, made sex, in its relations to social questions, a tabooed subject. Today the subject is receiving the attention of the foremost reformers, teachers and ministers. Parents, recognizing the importance of the matter, are teaching their children, the masses are coming to recognize the value and the imperative need of a frank discussion of the subject. The modern purity movement has produced a large variety of pamphlets and books on the various phases of sex. But no one has dealt with the social problem treated in this article.

Difficult Social Problem Illustrated.—The author's attention was called, a few months ago, to the social problem of "spooning," when he was unexpectedly invited to address a mother's meeting. One feature of the program was a recitation by one of the members. A few words of apology were offered by this member for not having prepared something better; then she recited a silly little poem, which gave a little girl's description of what she saw, while peeping through the keyhole of the parlor door, during the visit of her big sister's beau. In gesture, impersonation and language it was a most perfect rendition of a model case of modern spooning. The effect of the recitation on those mothers was an interesting study. A few clearly disapproved, some approved and fully one-half treated it as a joke. These one hundred Christian mothers were intellectual and refined. The great masses of humanity have low ideals. This is clearly proven by our suggestive post cards, newspapers, books, shows and the extent spooning is indulged in by the masses. It is almost universally conceded to be an essential part of entertainment among young people. This is not to be explained on the ground of viciousness, but it is due to their not having been informed as to the function of spooning in relation to sex. The facts are, very few people have taken the pains to study out the real nature of spooning, its uses and abuses.

Ignorance Among Unmarried.—Sincerity and honesty are essential to knowledge and wisdom. Prejudice possesses the strange power of transforming truth into error. It is the nature of prejudice to oppose the shedding of light on error. Prejudice, the offspring of ignorance, never dies until its mother is killed. Truth is the only weapon that has the power to destroy ignorance. The author invites a sincere and honest reading of this treatise on a hitherto neglected subject. In charity we will remember that many good people have made mistakes, violated the most sacred laws of life, and some have fallen into sin because of ignorance and bad customs. Older people should know that young people need kindness, not abuse; information, not misinformation.

Improper Relations of Unmarried.—Spooning is the popular name used by modern society for the indiscreet, suggestive and sentimental relations too often engaged in by young people. "There is a time for all things." Spooning has its rightful place in the economy of nature among fish, birds, animals and man.

Animals Controlled by Instinct—Man by Reason. — The lower animals are governed by instinct. From birth they avoid fire, poisonous things and places of danger.

Man is supposed to be guided and controlled by his reason and will. These faculties are wholly undeveloped at birth, The human young will eat a poison as naturally as a wholesome food, swallow glass as readily as water or milk, crawl into the fire or other places of danger as readily as into places of safety and comfort. In bringing children into the world parents assume the responsibility of thinking and deciding for the child during the period of infancy, and of safeguarding the child's future well-being by properly looking after its physical, mental and moral interests. The child gradually assumes personal responsibility, as mental and moral development progresses.

Earlier Ideas of Sex Instruction.—Until recent years, children were taught the correct names and functions of all of the organs of the body, as conscientiously as if their health, success, happiness, character and destiny depended upon this information;

but teachers were as silent as death when they came to the sacred sanctuary of reproduction and the divine function of perpetuating the species. Now we are gradually learning that more of health, happiness, success, character and destiny depend upon a correct knowledge of these organs and their functions, than concerning any of the other organs of the body.

Results of Ignorance in Sex Instruction.— In a recent publication, a state health board asserts that if all men and women understood the laws of sex, and obeyed them, there would not be the need of one doctor in ten. Prince A. Morrow, a sage among physicians, states that at least half of all the physical ailments of young men is the result of a violation of the laws of sex. To those who have not studied the relation of health to sex, a statement like this would seem an exaggeration.

Mental Effect of Sex Ignorance.—In his investigations of the asylums of one nation, Dr. Pique claims that he found that 82 per cent of all cases of insanity among females and 78 per cent among males, involved the sexual mechanism, functioning or both, and that early sex instruction would have wholly prevented many cases and would have postponed the mental breakdown in many other cases until later in life.

Moral Reasons for Sex Instruction.— More people are kept from accepting Christ, and more meet with defeats while trying to live the Christian life, because of their sex problems, than because of all other problems combined.

Need of Sex Instruction.— These facts prove the necessity of proper sex instruction. We know that education is the only safeguard for the protection of the child against the dangers of fire, poisons, falling and drowning. Is it not surprisingly strange that for centuries people could be duped into the inconsistent belief that ignorance of sex is the only safeguard to virtue?

Wrong Impressions of Origin of Life.—Why do people violate the laws of sex? Not because they are viciously bad in childhood and youth. Ignorance is responsible for the results of the broken moral law that is found in youth and middle life. The developing mind of a child leads naturally to the questions, "Where was I before I was born?" "How did I get into this world?" "Where do the babies come from?" In reply to these innocent questions, it has been customary for parents to ridicule, scold, shame, chastise or to tell the child one of many falsehoods. It is at this time and in this way that the child receives his first wrong sex impressions. Later, some ignorant and impure minded companion or servant will say to the child, "I know something that you don't know. You would like to know it too. I will tell you, if you will promise not to tell your papa and mamma. It is where all of the little babies come from." This is just what he wants to know. However good and obedient the child may be, his curiosity is so great that he agrees not to tell. Why keep this a secret? Because a knowledge of the origin of life is held by such an informer to be sinful, and this is the impression he has made upon the child. Thus is the second wrong impression made upon the child. Such a system of teaching is as unnatural as it is false, while it is extremely degrading.

Effects of Improper Sex Teaching.—The wrong person pours the story of life in half truths and obscene language, into the willing ears of the child. The time is badly chosen. This beautiful and sacred knowledge is given as an indecent secret and a great mystery. The boy compares the truth, viciously lodged in his mind, with the "stork" explanation offered by his parents, and discovering a falsehood, he loses confidence. From this time on he considers the origin of life as sinful and all references to the subject as vulgar.

Results of Wrong Sex Instruction.—As he grows older, he continues to get information of this nature from the ignorant and vicious elements of society. The chances are that he will be led into the secret vice before he is twelve. By that time he hears men and boys frequently boasting of their social sins with the opposite sex. He gets the idea that this is a manly achievement. Under this kind of training he does not, he can not feel himself a girl's protector; he does not, he can not appreciate the value of a girl's virtue; he does not, he can not comprehend the seriousness of a girl's fall and the disgrace brought upon her home. In his delusion he sees only a manly achievement. The moral ideas that come to a boy from such training are a conglomeration of misinformation and ignorance that result in depravity. Libertinism is the natural and logical sequence of such training.

Parents Responsible for Improper Relations.—In their early teens nearly all children are teased about sweethearts, and children from different families are encouraged to caress and kiss each other. This is a crime against childhood; a perversion of their social natures. This is the psychological age in which to train girls to enforce the rule "hands off;" and to teach boys to be courteous and gallant—that they are to protect and defend girls. If boys and girls are encouraged in the use of familiarities at this age, the chances are they will have no moral convictions about this custom when they are older. Boys and girls would rarely make these mistakes were it not for foolish older people.

Recreations Contribute to Immorality.—The young people of today get their ideas from post cards, cheap shows, serial love stories and sensational novels. One-third of the pictures exhibited at the cheap shows and plays at operas and theaters, consist in every possible phase of spooning. The bill-boards fairly blaze with pictures of enamored couples. In nearly every assortment of post cards, offered for sale by merchants, can be found a large variety of cards containing the pictures of young men and women engaged in the most suggestive positions of spooning. Nine times out of ten the sensual artist makes the young man to appear innocent and passive and the young woman is made the aggressor. The most suggestive sentences on the cards are usually from the lips of the young woman. Many of these pictures are secured by employing an attractive girl from the abodes of vice to pose with one of her male patrons. Such post cards are absolute insults to decent womanhood. All good women of this nation should resent this form of flagrant insult to the dignity and purity of womanhood.

These cards teach that love making, including personal liberties, in the parlors, during drives and visits to the park, is a universal custom. They also teach that young women solicit these attentions and are more eager for these relations than are young men. Young women who will receive such post cards from men encourage this belief. A supply of suggestive cards can be found in many parlors. Boys and girls study these cards while together. If this be true, is it not a suggestion to those who view the post cards that they engage in similar relations? Is it surprising that young people fall? Where is the responsibility? Can teachers, ministers and parents remain silent and indifferent, permitting children and youths to receive their information and ideas of social relations from impure pictures and books, shows and theaters, the ignorant and the vicious elements of society and not be held accountable?

The Mating Season.— What is the nature of spooning? Has it a function in the realm of nature? If so, what is its function? Naturalists tell us that during the mating season of birds and animals, in their communications with each other, they use a changed tone of voice. This changed tone of voice is used as a sex call. They are reminding each other that the mating season is on and that they must engage in perpetuating their species.

The Mating of Fish.—The female fish lays her eggs in shallow water. The male, swimming several feet or yards behind the female expells from his body the many sperm cells which are to be used in fertilizing the eggs. It will be observed that there is no sexual contact between the male and female fish at the time the eggs are fertilized. Several days before this event, these fish might have been seen on the riffles, or in deep water, swimming along side of against and over each other. Many mistake the action of the fish at this period for mating. They are not mating, they are love-making. Sexual excitement is necessary to the development of the eggs in the ovaries of the female, and especially for the generation of thousands of sperm cells by the male. From this we see that the function of these demonstrations among fish is sexual excitement.

The Mating of Animals.—At the approach of the mating season the wild and domestic birds and animals indulge in many expressions of caressing and playing with each other. This is spooning. With them it is not a violation of law. They never indulge in these practices except during the mating season, or for any other purpose than for sexual excitement. Sexual excitement prepares for mating.

Dangers in Married Life.—The sex impulse is perfectly normal. It is at the basis of our entire social fabric. It is not to be suppressed, but perfectly controlled. The love of lovers has its origin in sex. The selection of a companion is a sex choice. Marriage on any other basis is a farce.

Perpetuating the species is the supreme purpose of the choice of mates among animals and marriage among human beings. In relation to this supreme purpose spooning has a natural and necessary function, that of sexual excitement. Any social relation in the single or married life that leads to sexual excitement is spooning. Normal animals and human beings are susceptible to the influence of spooning. Any state of sexual excitement aroused by improper or intemperate social relations, in the single or married, is unnatural and may lead to immoral thoughts, acts, or marital prodigality.

Manhood and Womanhood Forfeited.—From these illustrations of the nature and function of spooning, we are driven to the irresistible conclusion that spooning has no place in the legitimate social pleasures of the unmarried. If young people never engaged in spooning, the forfeiture of the priceless gem of manhood's honor and womanhood's virtue would be extremely rare.

Dangers of Personal Familiarities.—Why do boys and men seek to hold the hand of a girl, pinch her arm, play with her hair, place their arms about her person, kiss her, recline and sit in her lap, or have her recline and sit in theirs? Why do some girls permit and encourage these relations? They are ignorant of the laws of sex and the dangers growing out of the excitement of the sexual impulse. Not one in fifty understands that spooning is purely a sex call. Not one in fifty understands that the thrill of pleasure accompanying spooning is an expression of sexual excitement.

Letter from College Student.—That many pure young people are wholly ignorant on this subject and of its dangers, will be seen readily from the following letter received from a conscientious, manly student:

Dear Prof. Shannon—Since hearing your course of lectures at the university, I have been intensely interested, and worried

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too, concerning the matter of "spooning." I will greatly appreciate your kindness if you will explain some things and answer some questions.

I am engaged to a young lady, as pure as God ever made. Our engagement is rather a long one, two or three years. I see her only two or three times a year and a week or so at a time. I love her with a pure love and vice versa. I am a manly man and have no habits of vice. When we are together I often place my arms around her and kiss her. This is done as innocently as I would kiss my sister. However, I will admit that there is a thrill of delightful pleasure accompanying these relations with my sweetheart that is not experienced when I caress my sister.

Now for my questions. I would like for you to explain again the distinction between sexuality and sensuality. What is the relation of love to sex? Why does kissing one's sweetheart thrill him with so much more pleasure than kissing his sister? Do you really think that the limited amount of "spooning" indulged in by us would lead to physical, mental or moral injury? Is "spooning" a sin in the sight of God? How about dancing? In what way does spooning injure a young man? In what way does it injure a young woman?

I am seeking light that I may be able to intelligently judge between what is right and what is wrong, in this matter. If I had ever questioned the moral right of lovers to spoon, I would never have engaged in it. I would die before I would injure her.

Please answer these questions right away and let me thank you now for your kindness and trouble.

Respectfully, ————————.

Author's Reply.—My dear friend—Your interesting letter received. I will endeavor to reply in the same sincere, frank and manly spirit in which your letter appears to have been written.

Sexuality and Sensuality.—Sexuality is a normal condition of the sex nature. Sensuality is an abnormal condition of the sex nature. Sexuality is God-given, God-honored and God-blessed, man and woman's pride and glory, not their shame and dishonor. Sensuality is the perversion of sexuality, man and woman's shame and humiliation, the primal and chief cause of human degeneracy. Sensuality is partly inherited, but more largely acquired by voluntary sexual excitement, oft repeated, greatly intensified and long persisted in. Impure thinking, the secret vice and spooning are the chief causes of sexual excitement. Out of sexuality spring the indescribable physical, mental and social charms of ideal manhood and womanhood. Sensuality prevents the proper development of these charms. It should be the aim of all intelligent training, in the home, school and church, and the personal ambition of everyone to develop and maintain a normal sexuality.

Source of Christian Love.—All men are made to love and be loved. The manifestations, or expressions, of love are called forth by a variety of agencies. There is Christian love. It is a form of love belonging to the Christian life. At the time of conversion and as one develops in the Christian life, he has an unselfish love for both sexes, all ages, all races, rich and poor that does not belong to the unconverted life. This love grows out of a changed moral relation to man and God.

Source of Parental Love.— Parental love grows out of sacrifice. Parent fish will eat their own young. No love exists between the parent fish and young. This is due to the absence of sacrifice. The human mother will die for her child. Her love is measured by her sacrifice. The truest father does not love his child as much as the true mother. His sacrifice is not equal to the mother's, and for this reason, the father can not love like the mother. As a rule, the toiling poor love their children more than the idle luxurious rich. They sacrifice more.

Source of Filial Love.—Filial love, the love of children for their parents and for each other, grows out of their intimate home associations and training, the recognition that they are one, blood of their blood, life of their life, being of their being.

Source of True Sex Love.— Among people, desexed in childhood, filial and Christian love would be possible; parental love and the love of lovers would not be possible. That peculiar expression of love, which brings the opposite sex of mutual affinities together in blissful courtship and happy marriage, harmonizes their differences and blends their personalities until the two complemental halves are made one, is the child of the sex life. A man, made a eunuch in childhood, has no interest in children, no concern for a home and no admiration or love for a woman. A woman, desexed in childhood, would have no interest in children, no concern for being at the head of a home and no love for the opposite sex. Dress a eunuch devoid of the charms of normal manhood, in broadcloth, with diamond ring and much cravated; bring him into the presence of five hundred marriageable young women and his presence would not stir the voiceless depths of the pure affections in a single woman. Instinctively they would recognize the absence of the charms of manhood. If a woman, desexed in childhood, were dressed in a Paris gown, bedecked with rare and costly jewels and brought into the presence of five hundred marriageable young men, her presence would not awaken a response from the manly affections in a single young man. Instinctively they would notice her lack of womanhood. Thus we see that the love between lovers, the engaged and the married, is inseparable from their normal sex natures.

Legitimate Methods of Expressing True Love.— The love of lovers will express itself. Its expression should be governed by a sane knowledge of human nature and moral conviction. There are many natural and innocent channels through which love can express itself, such as the look of the eye, the flush of the face, the tones of the voice, words and phrases, gifts, acts of gallantry and courtesy. Love is an inventive genius. It never woos and wins twice in the same manner. A whole month of courtship may be accomplished in the gift of a rose. Love possesses a language peculiarly its own. Its power of communication is not confined to vocal expressions or physical mediums. If true lovers are separated by months of time and a continent of space, ever and anon, love annihilates time and space in its swift and mysterious movements, bringing lovers blissfully and consciously together. This is love.

Evils from Ignorance Regarding Love.— It is not surprising that young people, ignorant of the conditions of sex excitement, should resort to kissing, embracing, caressing and fondling under the guise of love. Again, when we understand that spooning is nature's method of sexual excitement and that its practice is a very common indulgence among young people, we need not be surprised that many young people fall.

Different Motives for Kissing.— Kissing a sister does not produce the thrill of pleasure that kissing a sweetheart does, for the reason that the love that leads to kissing a sister has no relation to the sex nature, while the motive that leads one to kiss a sweetheart is the child of the sex nature. The thrill of pleasure experienced while spooning with a sweetheart is a sex thrill.

Should the Unmarried Spoon?—In the human family, spooning belongs only to the married life. If indulged in by married people beyond reasonable limits, it leads to sensuality, physical, mental and moral injury. If indulged in, even to a very limited extent among the single, it is fraught with gravest temptations. True love will find expression. Intelligent love, love guided by moral convictions, will find only the channels of expression that are safe. If young people would meet each other at the marriage altar with unkissed lips, there would be few blighted lives and wrecked homes. While a goodbye kiss might be indulged in occasionally near the close of an engagement, by pure minded young people without any apparent harm, it is not necessary to their happiness or a necessary expression of love.

Causes of Sexual Excitement.—The round dance, waltz and tango are to be condemned on the same ground as spooning. The best authorities on sex are agreed that the public dance, as executed today, has a tendency to complicate the sex problems of young people. Spooning creates greater sexual excitement than dancing. Of the two the moral hazard in spooning is far greater than in dancing. Many are together in a brilliantly lighted room or hall while dancing. Spooning usually takes place when a young man and a young woman are alone, in a carriage, in a park at night, or in a parlor, with the lights turned low, blinds down and the doors closed. Twenty fall through spooning where one falls through dancing. Spooning is more common and more dangerous.

Ignorance and Sin.— Sin is committed when a recognized law is broken. When a law is ignorantly violated, a wrong is committed. In the first case, one incurs guilt; in the other case, he does not. Spooning among the single is a violation of the laws of personal purity. When engaged in by parties who do not know the results, it is wrong; when persisted in by those who know it to be wrong, it becomes a sin. In either event they may reap a very sad harvest.

Effects of Sexual Excitement on Man.—In a man, if spooning is persisted in, it leads to sexual excitement. This causes a surplus of energy to be secreted. The body can retain and use only a normal quantity of this energy; while spooning a man may form many times the normal. This surplus will be dissipated through involuntary losses, the secret vice or prostitution. If spooning is continued for a few months or years he will suffer from varicosed veins and varicocele, later he may become temporarily or permanently impotent or sterile.

Effects of Sexual Excitement on Woman.— Personal familiarities with men lead to ovarian troubles in girls which sometimes require an operation. Frequent excitement leads to leucorrhoea, or whites, corresponding to sexual weakness in the male. The eyes that once glowed with lustre will become pale and sunken. The cheeks once plump, ruddy and rosy with health will become thin and faded. Nervous prostration, invalidism, consumption or one or more of many other troubles may follow.

With the kindest interest in you and yours, believe me,

Sincerely your friend, T. W. S.

Example of Mental Sexual Excitement.— In one of the northern universities, a young man called on the writer for an interview. He knew that he was in a critical condition. He wanted information and help. He was found to be impotent and possibly temporarily sterile. He had been quite free from the secret sin and visiting the immoral woman. It was explained to him that his trouble was in his mind, that he had indulged frequently, for several years, in some custom that had resulted in high states of sexual excitement. He was then asked to explain what he considered to be the cause. His reply was, "Professor, I guess I know, but I never dreamed that it could become this serious. For nearly three years, two to three times a week, three or four hours at a time, I have been visiting a lady friend. We have engaged much in kissing, embracing, reclining and sitting in each other's laps. We have not been personally immoral, though I have been ungentlemanly enough to request sexual favors a number of times. This she has sternly refused. I guess this is the cause of all my trouble." He was assured that his conclusions were correct, that there was no habit more injurious to the sexual system, physical health, mental strength and moral character than that of which he was guilty.

Effects of Improper Thinking Explained.— Young men often ask why they suffer certain aches and pains after they have spent several hours with their best girl. Invariably a few questions bring forth a confession of extravagant love making. Then it is explained to them that the sexual excitement caused by spooning sends a surplus of blood to the genital system and this congested condition leads to an inflammation that causes the pain. These aches and pains are the first symptoms heralding the approach of varicose veins and varicocele. What an outrage that young women should entertain their men friends in such an unnatural way as to produce these results!

Another Example.—A university student, delirious with grief and crushed in spirit over a disappointment in a love affair, made an attempt to commit suicide. When he came to himself, he told of a very romantic courtship he had carried on with a young lady the previous year; of the many delightful physical ecstasies he had experienced while holding her in his arms and when her lips met his, of the correspondence that followed during the vacation, of the heart crushing experience he was passing through due to a note he had received from her, informing him that she had discovered during vacation that she did not love him, and demanded that their engagement be broken.

She had mistaken a sex thrill for love. When apart from him during vacation, she discovered her mistake. If she had been in love with him, she would have been as conscious of that love when they were separated by weeks and miles as while with him. The young man was doubtlessly in love, but he was unwise in expressing that love through the channel of spooning

How One May Know When "In Love."—In personal interviews and correspondence the author is frequently asked, "How can I tell when I am in love?" This is an important, serious and difficult question to answer. Friendship and courtship make it possible for young people to become thoroughly acquainted with each other, and to intelligently decide whether they can and do love each other, and whether it would be wise for them to marry. Young people who fondle each other are not able to discriminate between a heart beat of love and a sex thrill of pleasure. It would require the mental acuteness of more than a Philadelphia Lawyer to distinguish between these rivals in modern courtship. Sensual desire is love's enemy. The two can not long thrive together. If sensual desire dominates, love will be destroyed and two lives will be stranded that can never command sufficient love to blend them into harmony, even by the sacred vows of marriage. Personal familiarities are a blight to courtship, cause unwise marriages and often end in divorce. If spooning could be eliminated from society, very few girls would ever fall, more men would retain their virtue, fewer mistakes would be made in the choice of a companion and the divorce mill would cease to grind.

Natural Sentiments of Boys and Girls.— It is natural for a girl to shrink from the touch of a boy's arm about her person and to resent every attempt on the part of a boy to kiss her. It is just as natural for the well-trained boy to be chivalrous toward girls. This sense of modesty and discretion on the part of a girl and the feeling of tenderness and protection on the part of the boy can be easily overcome by a social atmosphere that approves of hugging and kissing. Many erring girls can trace their first step toward ruin to a kiss in childhood. Many men can trace their conquest of women to their boyish exploits in kissing small girls.

When home training and teaching become sane and natural, boys and girls will come to maturity with unkissed lips, friendship will deepen naturally into intelligent pure love, courtship will terminate in happy marriage and divorce cases will disappear from our court dockets.

Some Girls Take the Initiative.— Young men are not always responsible for spooning. Some young women take the initiative. Girls who are addicted to the dance are accustomed to free personal contact with men. These girls are many times inclined to bestow favors. They sometimes invite familiarities. Girls who keep a quantity of vicious post cards in their parlors and who invite their men friends to look at them, do not object personally to spooning. Girls who are fond of wearing very low necked dresses, certainly ought to be informed that this is the most extreme and dangerous form of invitation. The partially concealed charms of women are universal temptations to men. A woman has no more moral right to dress in such manner as to tempt men to wrong desire, than a man has to tempt a woman to do wrong. A reform in low-necked dresses is a moral necessity.

Mosaic Law, Christ's Interpretation.— The Jews understood the Mosaic Law, "Thou shalt not commit adultery," to apply to the overt act only. Christ, who knew the will of the Father and the laws of life, interpreted the Mosaic Law to mean character as well as conduct, when he said, "Whosoever looketh on a woman to lust after her hath committed adultery with her already, in his heart." This statement is not true simply because Christ said it. It is a scientific fact that lustful mental states injure the body, the nervous system, the mind and moral natures through the generation and dissipation of the sex life, as much and oftentimes more than would the overt act of adultery.

Christ here speaks of mental adultery. The man commits it in his own heart. So far as he is concerned, he is injured just as much as if he had committed the act with a woman. Mental adultery robs man of as much vital energy as does the overt act.

Causes and Effects of Mental Adultery.— Modern society offers no opportunity more conducive to mental adultery than is found in the custom of spooning. Christ's statement being true, in view of the prevalence of promiscuous love making, it is certainly true that the victims of this form of adultery exceed those of the overt act. The reader is not to infer from this arraignment of this subject that all who indulge in hugging and kissing are charged with the sin of mental adultery. Pure and innocent young people might use this custom, as a means of expressing their love for each other, for a short time with only limited injury. If it is persisted in, it must lead to mental adultery, for the same reason that tippling leads to drunkenness. No human hand ever misappropriated property until the mental thief had stolen the property over and over, again and again. Finally the mental thief becomes the master and forces the hands to take the stolen property. The overt act of adultery is never committed until mental adultery has been committed time and again. Spooning is the cause that leads to mental adultery and finally to the overt act. Girls do not voluntarily surrender their virtue because of a difference in wages of $8 and $10 a week. Money is at the bottom of the white slave traffic and all commercialized vice. Money can be no more than a contributory cause of a girl's voluntary fall. A half-witted girl, half trained by a half-witted mother, would sell her virtue; a normal girl would not. A system of ethics that teaches girls to permit men to kiss and hug them until their passions are aroused beyond self-control is responsible for the fall of girls and men as well. The conclusion is irrefutable. Here, and not elsewhere, do we find the one cause for the downfall of young people. Only cringing, inexcusable moral cowardice and criminal mock modesty will longer keep teachers, ministers and parents from placing these facts in the hands of the youth.

Physical Dangers of Over-Familiarity.—Spooning is injurious, because of the strain upon the nervous system and the dissipation of vital energy, but this is not the only danger. There are many diseases that may be communicated in this manner. The most serious of these are the venereal diseases. It is now a well-established fact that these diseases may be communicated to innocent parties by kissing, biting, scratching, use of spoons, knives, forks, cups, pipes and towels. It is for this reason that many states have passed laws prohibiting the use of the public cup and towel. When a young man, infected with venereal disease, enters the office of a careful physician, he is asked to wash his hands in antiseptic water, before touching anything in the office.

Innocent May Suffer from Infection.—A physician told the author the following incident: At a social gathering, a young lady asked for a pencil and piece of paper. A young man stepped forward and offered her his pencil. Girl-like, she placed the pencil in her mouth before using it. A few days later a syphilitic sore made its appearance upon her lip.

In a recent issue of one of the leading medical journals is to be found the following incident. The article is written by a physician who knew the parties in the case. A number of young people gave a public entertainment. An entrance fee was charged. The proceeds were to be given to some charitable cause. Kissing formed a special feature of the entertainment. In the crowd was a popular young man who was under the care of this physician for syphilis. A few days after the play, five girls and two clean young men developed syphilitic sores on their lips, two other members of the party had similar sores on the cheek.

In another town, a young man was treated three years for this disease. At the expiration of this time his physician declared that he could safely marry. A few months after marriage the physician was called to examine and treat a sore on the wife's lip. The peculiar appearance of the sore told the story. Months after she was pronounced cured this doctor was called to perform similar service for the wife of a prominent lawyer in the town. She had kissed the wife of the first and guilty party, and was the second person to be innocently infected.

Innocent Sufferers are Ignorant.—These innocently infected persons were never told the nature of their troubles. Doctors rarely explain these things to innocent sufferers, hence nearly all people, especially women, believe such cases extremely rare. From the health point of view there are many other reasons why promiscuous kissing should be eliminated from society.

Dangers of Infection.—The germs of syphilis are in the blood of the person infected and are carried to all parts of the body. Where there are external syphilitic sores, or infected parts, the victim is likely to get these germs on his hands. In all healthy people there are abrasions on the lips, so small as to be seen only by aid of the microscope, but amply large enough for these germs to enter.

Results of Infection.—Syphilis is responsible for ninety per cent of the cases of locomotor ataxia, it produces insanity, it is the cause of many still-born children, of apoplexy, of paralysis and of sudden deaths. It shortens life one-third. If the young woman knew the nature of these diseases the appalling number of young men who are infected and the danger of contamination, they surely would take the necessary precaution to prevent infection.

SECTION TWO—EDUCATION THE REMEDY

Natural Sex Impulses.— Occasional experiences of sex consciousness, feelings, emotions and desire are natural in animals and man. In animals the sexual instinct is excited only at certain regular periods. In man the sex instinct may be excited at any time and indulged in solely for sensual pleasure.

Man Abnormal.— All men have inherited more or less of sensual desire. Nearly all have intensified this unfortunate heredity by yielding to sensual impulses, in thoughts, language or acts. It follows that but few are normal.

Nature teaches the lower animals to keep out of the fire, to avoid eating poisons and to control sexual desire. But nature does not teach a child to control the sex impulses. Nature does not teach an infant not to crawl into the fire, a pool of water or not to eat poison.

Control of Sexual Impulses.— The sexual impulse among the lower animals is guided and controlled by instinct. The sexual impulse in human beings is to be guided by reason and controlled by will. The attitude of the reason and will toward the sexual impulse will be almost wholly determined by the education received. If this education is scientific and moral, timely and wisely given, virtue will be safeguarded. If children are neglected in this respect, their reason and will are likely to be found powerless when temptation assails.

Dawning of a Better Day.— In the trend of social progress a better day has come. We are rapidly coming to see the imperative need of proper sex education for both sexes and all ages. In the past law-makers, moralizers and teachers have dealt with the effects of the social evil and have neglected to study the causes. We no longer turn away like Pharisees, and pretend that we do not know what exists. We are abandoning our foolish, cowardly puritanical hypocrisy.

Education the Remedy.— Wholesome legislation will help, evangelization will help, reform organizations will help, but the one paramount need of the hour is a sane, practical and universal application of the words of Jesus, "Ye shall know the truth and the truth shall make you free."

Moral, Immoral and Unmoral People.— We are not born with moral convictions or moral characters. There are moral, immoral and unmoral people Their attitude toward any moral subject is determined by the education they have received. Infants are neither moral nor immoral, they are unmoral. If a man, from infancy, has been placed under such environment as to receive no moral training whatever, at maturity he would still be unmoral. Again, if this same man had been trained from infancy to believe that lying, stealing, disobedience, anger, drunkenness, murder, adultery and idolatry were honorable and right, he would engage in these things with the sanction of his own conscience. He would be unmoral, not immoral. Paul's wrongly educated conscience sanctioned the death of the Christians. In this he was unmoral rather than immoral.

Morality is the product of voluntarily choosing to do, in thought, word and act, what is known to be right and in resisting what is known to be wrong.

Immorality is the product of voluntarily choosing to do, in thought, word and act, what is known to be wrong and in refusing to do what is known to be right.

Unmorality is the product of leaving the conscience uneducated, or of a conscience partly or wholly trained to believe wrong to be right.

The moral man chooses to resist temptation and to do right.

The immoral man chooses to do wrong and yields to temptation.

The unmoral man is powerless to make an intelligent choice; all acts are legitimate to him.

The first man deserves reward and gets it; the second man deserves punishment and sooner or later receives it; the third man deserves pity and help, but, as a rule, he is severely censured and unjustly punished.

Inconsistent Teaching.—Why does the small boy's conscience condemn him for lying, stealing and disobedience, and fail to make protest against secret vice? The simple answer is, his conscience was normally educated in the school, home and church in relation to the first wrongs, but it was not educated normally in relation to the last evil. Why do young men hang their heads in shame because of lying, stealing, drunkenness and murder and then boast of their conquests among women? In relation to the first crimes their consciences were normally educated by the school, church and home; in relation to the last mentioned crime their consciences were not trained by the school, church and home. They were trained by the vicious and ignorant to regard the secret vice and fornication as physical necessities and manly achievements. Under this false teaching and lack of wholesome training, boys and men often boast of their conquests, whether guilty or not. Are they moral, immoral or unmoral? They are a cross between the three.

School, Church, Home Responsible.—Now let us apply the foregoing principles to this degenerate social custom of lascivious love making. It is quite general among young people. Have the school, home and church given young people sane, ethical and scientific instruction on this problem, or have they ignored it? What sources of instruction are open to boys and girls, young men and women? In every town suggestive post cards are offered for sale, fully one-third of the scenes exhibited at the cheap shows and the performances at the theaters consist of suggestive relations between the sexes. Serial love stories and novels excuse, condone and approve of spooning. Many boys and men boast of their victories with women. As a result of this wholesale wrong teaching and little or no correct instruction from right sources, most boys and girls, men and women are unmoral, rather than immoral. But, the saddest feature of this unmoral social condition is that our young people, unprotected, find themselves well nigh powerless to resist wrong doing in the presence of strong temptation.

Education Makes Character.— The ability to choose the right and to reject the wrong course of action is determined by moral convictions and character. Moral convictions are produced by wholesome education and a sincere desire to know and do the right. Character can not be inherited, received as a gift from a friend or purchased at any price. Character is produced by a persistent choice of what is right, and rejection of what is wrong.

Moral convictions on honesty result from right education on the subject and a sincere desire to be honest. Honesty, as an element of character, is produced by a persistent choice of honesty in preference to every temptation to be dishonest.

Moral convictions on personal and social responsibility, in relation to manhood's honor and womanhood's virtue, result from wholesome education on these subjects and a sincere desire to be pure. Purity, as an element of character, is produced through a persistent choice to be modest and discreet in all of one's social relations with the opposite sex.

Education and Grace Necessary.— Many religious people seem to think that grace is an absolute specific for all sexual irregularities, and for them to admit the necessity of proper teaching of sex, personal and social purity truths, would be to minimize the efficacy of the atonement. Impure thinking and bad practices gradually establish a pathological condition in the sexual system. This leads to abnormal desire, due largely to a physical condition that has been produced by sending too much blood to the genitals. Grace operates in the moral nature. For God to restore the average man to a normal sexual condition, at the time of conversion, would require nothing short of a miracle in the physical realm. It is the part of education in childhood to prevent these unnatural conditions taking place. It is the part of sane education to teach the abnormal man how to become normal.

Sex Instruction An Absolute Necessity.— Personal interviews with thousands of young converts, among men, have convinced the author that the greatest struggle men have in trying to live the Christian life is related to sex. If grace corrected these problems, men would meet with fewer defeats after conversion. No minister and no evangelist has completed his duty to a young man whom he has led to Christ, until he has helped him in some way to understand his sex problems.

The vice reports of large cities, where careful investigations have been made, reveal that many of the denizens of the "red light" districts were once Sunday School pupils and some grew up in the church. The fact that some members of the church are guilty of sexual crimes and occasionally a minister falls, shows that the efforts of the church in the past have not been able to solve these social problems. Boys and girls, men and women, are safer in the church than they are on the outside, but they can never be absolutely safe anywhere while sex instruction for the masses is neglected by the home, the school and the church.

Education An Essential Part of Reform.—Along with the reform campaign of abolishing the white slave traffic and the suppression of public places of vice must go a systematic campaign of sane and safe education. The author has found a number of colleges, where the horrors of venereal diseases have been annually emphasized by lectures on sex hygiene, who failed to place proper emphasis on how to live a continent life and that there has been a noticeable increase in the practice of the secret sin and in clandestine relations with supposedly pure girls. This goes to show that, if an abnormal man is frightened or forced out of one form of vice he will resort to another. While the immediate suppression of the white slave traffic and public immorality would be a great victory, in the author's opinion, if it is not done in connection with school, home and church educational campaigns, it will result largely in substituting one form of vice for another. Just to the extent that young men come to understand that "all immoral women are diseased part of the time and part of the immoral women are diseased all of the time," that once infected often means always infected, that eighty per cent of the blindness from birth and over fifty per cent of the operations on married women are due to infection from husbands who supposed themselves cured, will they avoid clandestine relations with the opposite sex. There is abundant evidence of an increase of clandestine prostitution over what existed ten years ago. If the reform wave advances ahead of the educational movement, this social condition will become more apparent. The educational campaign is showing splendid results wherever it has gone and has been conducted properly. In lecturing to young men, in teaching young men and in books for young men, emphasis should be placed on these things that they can live pure, how to live pure and that the abnormal man can become normal.

Chief Cause of Degeneracy.—"My people perish for lack of knowledge." No one cause of human degeneracy is more clearly pointed out in the Bible than that of the social evil. Why so many poorly developed bodies and dwarfed minds, enervated fathers and sickly mothers, puny children, lustful sons and fallen daughters? Gradually law-makers, teachers, reformers, ministers and parents are beginning to see that, in spite of our past methods of legislation, education and evangelization, human delinquents are on the increase. Gradually they are finding out that the chief cause is the violation of the laws of sex. We are slowly learning that the policy of silence has signally failed to produce pure men and women. It has taken the world a long time to see that "Ye shall know the truth and the truth shall make you free," is the only sane and safe method of dealing with social evil problems.

Proper Distribution of Information.—*Practical Eugenics, the official organ of the Single Standard Eugenic Movement, and The Light, the official organ of the World's Purity Federation, should be in every home. In the choice of papers for the home these should be selected with the best church paper. There should be in every home a book or books treating in a chaste, safe, simple and scientific manner every phase of heredity and sex. Parents should prepare themselves to give the earliest instruction to their children and be able to select for them the best books to read as they grow older. Many colleges are now making this a part of their instruction. A strong effort is being made to introduce this work in our high schools. When the time comes that this is made a functional part of our school work, the earliest and most important part of this teaching is still the duty of the parent.

If the distribution of sex information is taken out of the hands of ignorant playmates, companions and servants and becomes the sacred obligation of wise teachers, noble fathers and pure mothers, then will morbid curiosity and low ideals be replaced by wholesome knowledge and pure ideals; virtue will be safeguarded, the home protected, society purified, the church honored and the future of the nation assured.

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CHAPTER VII

MARRIAGE

SECTION ONE—WHAT EVERYBODY SHOULD KNOW

The Definition of Marriage.—In the preceding pages we have discussed to some extent, the subjects of *Love* and *Beauty*. These two subjects are closely associated with marriage. Love and beauty are, to the individual, motives which lead to marriage; but they are not the fundamental motives. "Marriage is the union of a man with a woman, who associate themselves in order to *perpetuate the species*, to aid each other by mutual assistance, to support together the chances of life, and to endure the same fate."

A Man Not a Man Until Marriage.—A man first becomes a man and a woman a woman in marriage. Only when united by that mysterious rite does each find nature satisfied, and all the faculties and functions meetly exercised. By such union those powers which are directed without the individual, those strong sentiments which are the reverse of the selfish and introverted portions of our constitution, are called into action. The husband and father no longer labors for himself alone, no longer even principally for himself. There are others who, he feels, have claims upon his time, his thoughts, his possessions, more imperative even than himself. He first provides for these, and for their sakes willingly and often undergoes deprivations and self-denials.

Home and Virtue.—Just in proportion as love is pure, marriage honored, and the bed undefiled, will all the other Christian virtues be admired and praised. No more ominous sign of decay and deep corruption in a nation can be seen than when there is a wide-spread aversion to marriage, an oft-repeated sneer at the happiness it brings, a current doubt as to the fidelity to those who are united in the bonds of matrimony.

Looking Forward to Marriage.—Most young persons of both sexes look forward to marriage as a desirable condition, and when they have entered it, they accept cheerfully its burdens, observe honorably its injunctions, and are far happier than if they had remained single.

Physical Fitness for Marriage.—Remember, marriage is for the purpose of offspring. The law, moral and physical, must condemn any marriage in which this purpose is not at all, or only imperfectly, carried out. Hence, *virility* is a necessary preliminary to marriage.

Don't Marry too Young.—Marriage works sure and fatal injury on the constitution of boys or very young men. Their lives are shortened, their health enfeebled, their mental powers frequently impaired. The best age for a young man to marry is from twenty-three to thirty-five years. The woman, from twenty-three to thirty. Too early marriage is especially bad for women. On the other hand, too late marriage is not well. The soft parts are liable to become rigid and less capable of yielding in child-birth.

THE WEDDING PROCESSION.

Hereditary Taints.—Many families have hereditary taints. It is probable, at least possible, that a pre-disposition to consumption, scrofula, insanity, and the like, may be passed down to the offspring. It is quite certain that these diseases will be inherited by the children should both the man and woman have such tendencies.

Late Marriages a Cause of Disease.—Elderly men should not marry. Remember that *virility* is essential to produce healthy, vigorous offspring. Old men have, unless in rare cases, lost much of their virility. One noted writer claims that the cause of the increasing number of diseases and weaknesses of our generation is the growing tendency to postpone marriage until time or indulgence has diminished the forces and exposed the system to succumb readily to any unusual drain upon its resources.

Malformations.—Malformations should, in some cases, preclude the idea of marriage. But such cases are not numerous. A careful investigation by an intelligent physician may settle all doubtful cases.

Relative Ages of Husband and Wife. It seems to be the sentiment, all but universal, that the husband should be the older, say from five to ten years.

One writer says: "I think there should always be an interval of about ten years between a man of mature age and his wife. Women age much more rapidly than do men, and as the peculiar functions of matrimony should cease in both parties about the same time, such interval as this is evidently desirable."

Prof. Fowler's Statement.—"Up to twenty-two, those who propose marriage should be about the same age; yet a difference of even fifteen years, after the youngest is twenty-five, need not prevent a marriage, when everything else is favorable. But a man of forty-five may marry a woman of twenty-six or upwards much more safely than one of thirty a girl below twenty; for her natural coyness requires more delicate treatment than his abruptness is likely to bestow. He is apt to err fundamentally by precipitancy, presupposing that her mental sexuality is as mature as his own. Though a man upwards of forty must not marry one below twenty-two, yet a man of fifty may venture to marry a woman of twenty-five, if he is hale and descended from a long-lived ancestry. Still, no girl under twenty should ever marry any man over twenty-six.

Ill-Mated in Years.—"The love of an elderly man for a girl is more parental than conjugal; while hers for him is like that of a daughter for a father, rather than wife for husband. He loves her as a pet, and therefore as his inferior, instead of as a woman; and is compelled to look down upon her, as inexperienced, below him in judgment, too often impulsive and unwise; which obliges him to make too many allowances to be compatible with a genuine union. And she is compelled to look upon him more as one to be reverenced, perhaps feared, and as more good and wise than companionable. Their ideas and feelings must necessarily be dissimilar. He may indeed pet, flatter and indulge her as he would a grown daughter, and appreciate her artless innocence and girlish light-heartedness,

THE BRIDE

yet all this is not genuine masculine and feminine love; nor can she exert over him the influence every man requires from his wife."

Identity of Taste and Diversity of Temperament.—Great care should be taken in the choice of a partner for life. Accomplishments, social position, health and beauty should all be considered. But more than that, *identity of taste and diversity of temperament* between husband and wife outweighs all other considerations.

Marriages are happiest and most productive of bright and healthy offspring where husband and wife differ in both body and mind. And yet the diversity in all matters of temperament should not be too great. A man of warm, loving disposition should not marry a woman who coldly repulses his efforts at love-making. And the reverse is also true; a woman of warm and ardent disposition craves the responsive affections of a husband.

Don'ts in Selecting a Life Companion.—Don't sell yourself for money or position.

Don't throw yourself away; remember marriage is not for a day.

Don't fail to seek the advice of your parents.

Don't marry to please a third party.

Don't marry to spite anyone.

Don't marry because someone else is seeking the same person.

Don't marry to get rid of anyone.

Don't marry merely from the impulse of love.

Don't marry without love.

Don't marry simply because you have promised to do so.

Don't fail to test thoroughly effects of separation.

Don't fail to consider the effects of heredity on your children.

Don't fail to test thoroughly protracted association.

Don't marry suddenly.

Don't marry downward.

Don't fail to consider the grade of the one you are to marry.

Temperaments.—We have referred to the matter of temperaments in another part of this book. It is our opinion that this subject is worthy of profound consideration. It would be well for the man and woman who contemplate marriage to make a special study of this subject, and not leave this matter to mere chance. The race would be greatly improved if marriages could be made on scientific principles.

The writer well remembers a large family, mostly boys, who sprung from a father and mother well mated as to temperament. Perhaps there was not one of the children who was not superior to either the father or mother. At least, none were inferior to the parents, and most of them much superior to either parent.

A Question of Doubt.—One author makes the following statement: "Marry your conjugal mate—your personal duplicate, your approximate equal in development and your like." This statement may be correct if properly understood, but on the face of it, it would seem to teach that a person should marry one of the same temperament. If this were followed out fully, it would be a sad day for our race. Temperaments should be *unlike* in husband and wife.

Marrying Near Relatives.—One writer says: "The fear of marrying a cousin, even a first cousin, is entirely groundless, *provided there is no decided hereditary taint in the family.* And when such a hereditary taint does exist, the danger is not greater than in marrying into any other family where it is also found. But as few families are wholly without some lurking predisposition to disease, it is not well, as a rule, to run the risk of developing this by repeated unions."

"The Marriage of Cousins," says the London *Lancet*, "provided both are healthy, has no tendency to produce disease in the offspring. If, however, the cousins inherit the disease, or proclivity to it, of their common ancestor, their children will have strong tendency to that disease, which might be fostered or suppressed by circumstances.

"There can be no question that cousins descended from an insane or highly consumptive grandparent should not intermarry; but we can not see any reason for supposing that either insanity or consumption would result from the intermarriage of healthy cousins."

Taint of Insanity.—Life insurance companies are very careful to examine into the ancestry of the one seeking insurance. This is "business." Should young people seeking marriage be any less business-like? Cancer, gout, asthma, diseases of the heart, hysteria, epilepsy, paralysis and insanity may descend, and many times do descend, from the unhappy parents to the more unhappy offspring.

Many cases commonly attributed to physical or moral shocks are really instances of the breaking out of an inherited tendency, which has lurked unheeded in the system until aroused by some unusual excitement. From one-third to one-half of all attacks of insanity owe their origin to hereditary causes.

A Sad Case.—The writer is acquainted with the children, the grandchildren and the great-grandchildren of a woman who died insane, some fifty years ago. Each generation shows the taint of insanity. Not all, of course, but it is scattered along down the generations. How long it is to continue the Lord only knows. It would be well for the world if the tainted ones should cease to marry.

Avoid Marrying a Diseased Person.—We discuss the subject of venereal disease in another part of this book, and will only throw out the red light of warning in this place. Before entering into the marriage relation, look well into this matter. Ladies, beware of the man tainted with any of these awful diseases. Even though you may be sure that all physical effects have passed, the moral taint is there unless the young man, in sackcloth and ashes, has repented and purged his conscience.

Long Engagements.—The great English surgeon, Dr. Acton, on the subject of long engagements, has this to say: "All medical experience proves that for anyone, especially a young man, to enter into a long engagement without any immediate hope of fulfilling it, is, physically, an almost unmitigated evil. I have reason to know that this condition of constant excitement has often caused not only dangerously frequent and long-continued nocturnal emissions, but most painful affections of the testes. These results sometimes follow the progress of an ordinary two or three-months' courtship to an alarming extent. The danger and distress may be much more serious when the marriage is postponed for years."

Duty of Fidelity.—Nothing is more certain to undermine domestic felicity and sap the foundation of marital happiness than marital infidelity. The risks of disease which a married man runs in impure intercourse are far more serious, because they involve not only himself, but his wife and children. He should know that there is nothing which a woman will not forgive sooner than such a breach of confidence. He is exposed to the plots, and is pretty certain sooner or later to fall into the snares, of those atrocious parties who subsist on blackmail. And should he escape these complications, he still must lose self-respect, and carry about with him the burden of a guilty conscience and a broken vow. If we have urged on the celibate the preservation of chastity, we still more emphatically call upon the married man for the observation of fidelity.

SECTION TWO—ETHICS OF MARRIAGE

The Law of Love.—Love is the basis of marriage; so *should* it be of married life. Love seeks the good of the beloved object—desires to promote the dear one's happiness, and avert sorrow, care and pain. We may leave love to find out the ways and means of doing this, and need not fetter affection with formulas. It will do the right thing at the right time, fall short in nothing and never transcend its bounds.

This Is our Highest Ideal—our notion of that perfect love which casteth out selfishness, which never forgets its divine origin is always mindful of its sacred office, and whose azure wings are never bedrabbled in the mire of earthly grossness. But lovers, wives and husbands are poor, imperfect mortals, after all, and there are few married couples who may not profit by some well-considered hints in regard to the minor morals of matrimonial and domestic life.

Matrimonial Fidelity.—The first duty which married persons owe to each other is to maintain that sacred and unalterable fidelity toward each other to which they are sworn by their bridal vows. This fidelity implies something more than the avoidance of overt acts of conjugal transgression which shock the moral sense of community and awaken public indignation. There may be folly and wrong where there is no actual violation of the law of the land. The moth may flit about the lamp flame for a time without falling into it, and a flirtation may originate in vanity or pique, and end in nothing worse than a brief infatuation on one side and a few keen pangs of jealousy on the other, but the danger of more serious results is fearful.

CAN IT BE HE IS UNTRUE?

Flirtations.—Beware, then, of the slightest approach to trifling with the holy bonds you have assumed. Let there be no cause for a single anxious thought, for one hour of disquiet or doubt on the part of the one you have sworn to love and cherish.

That one must be first in your thoughts always. The hopes, the plans, the happiness of husband and wife are bound up together. We can not divide the most sacred sympathies of our nature between our lawful mate and another person.

Thine Own, Forever Thine, is the language of the true husband or wife. We may have father, mother, brothers, sisters, friends, all near and dear to us, but before all, and above all, must be the one to whom we have given the hand and heart in marriage. Poverty may benumb the soul with icy hands; misfortune may darken our pathway; sickness may lay us low; beauty may fade and strength depart, but love and constancy are but a name if they live not through all.

Mutual Confidence.—Married people who would live happily together must treat each other with perfect confidence, and be strictly honest and unreserved in their intercourse. Duplicity, even in the smallest matters, must be carefully avoided. A wife must not deceive a husband, or a husband his wife, in anything. When one gets into the habit of doing anything of which he or she is ashamed to speak to the one who should be as another self, there is the beginning of a course of wrong-doing of which no one can foresee the end. With the first detected deception—and deception seldom remains long undetected—there comes a loss of confidence, which it is almost impossible to fully restore; but with mutual unreserved honesty of purpose and complete openness, there will come a faith in each other which nothing can shake. Where such honesty, frankness and confidence exist, there can be no room for jealousy, no grounds for bitterness and strife.

Charity.—No one is free from faults. If courtship has not revealed them to the lovers, marriage will certainly remove the veil and show each to the other with the failings, foibles and weaknesses of our imperfect humanity. Love, like charity, may cover a multitude of sins, but it can not make us blind to the faults of character and the errors of habit which we shall inevitably discover in the beloved; but the discoveries we may make should not alienate us in any degree or cool our love; for while we see some things that we do not approve, we should bear in mind the fact that we probably have as many and as great faults as our companion, and that there will be need of constant mutual forbearance and charity.

Shall Husband and Wife Criticise?—It is a duty we owe to our friends, and especially to our best of all earthly friends—our wife or husband—to remind them, in a spirit of kindness and charity, of their faults, with a view to their correction. We must not do this in a censorious and self-righteous spirit, but considerately and tenderly, and we must not manifest impatience if the habits of years are not wholly abandoned in a week.

Agree to Disagree.—When a husband and wife can not think alike on any particular subject, they can at least "agree to disagree," and not allow a slight difference of opinion to cause unkind feelings or estrangement. Be tolerant everywhere, but especially at home.

We may establish a claim on some incidental circumstance, or the bare fact of relationship, and impose burdens and accept kindness without a thought of obligation on our part.

Matrimonial Politeness.—The husband should never cease to be a lover, or fail in any of those delicate attentions and tender expressions of affectionate solicitude which marked his intercourse before marriage with his heart's queen. All the respectful deference, every courteous observance, all the self-sacrificing devotion that can be claimed by the mistress is certainly due to the wife, and he is no true husband and no true gentleman who habitually withholds them.

Honor, Respect and Love.—It is not enough that you honor, respect and love your wife. You must put this honor, respect and love into forms of speech and action. Let no unkind word, no seeming indifference, no lack of the little attentions due her, remind her sadly of the sweet days of courtship and the honeymoon. Surely the love which you then thought would be cheaply purchased at the price of a world is worth all your care to preserve.

Wife and Sweetheart.—Is not the wife more, better and dearer than the sweetheart? It is probably your own fault if she be not. The chosen companion of your life, the mother of your children, the sharer of all your joys and sorrows, as she possesses the highest place in your affections, should have the best place everywhere, the politest attentions, the softest, kindest words, the tenderest care. Love, duty and good manners alike require it.

"Youst My Vife."—There is a story told of an old German who was engaged in the back part of his place of business when one of his clerks came and told him that there was a lady waiting to see him in his office. He had thrown off his coat and the work he was doing had soiled his hands.

Hurrying to a basin he washed his hands, threw on his coat, straightened his tie and made himself as presentable as possible before going forward to meet the lady. Returning a few minutes later, he said, with an aggrieved air, as he threw off his coat:

"I put on my coat und make myself clean for noding. Dot vas youst my vife."

Now there are a good many intelligent, entirely respectable and well-meaning men who do not feel it to be incumbent upon them to observe the ordinary rules of courtesy towards women, when the woman in question is "youst my vife." And so there are wives who fall into the habit of negligence regarding their personal appearance and who are indifferent to many of the ordinary little courtesies of life, when there is no one around but "just my husband."

It is an evil day in any home when the husband feels that he can be less courteous to his wife than to other women, and it is an equally evil day when the wife feels that she can put aside many of the little courtesies.

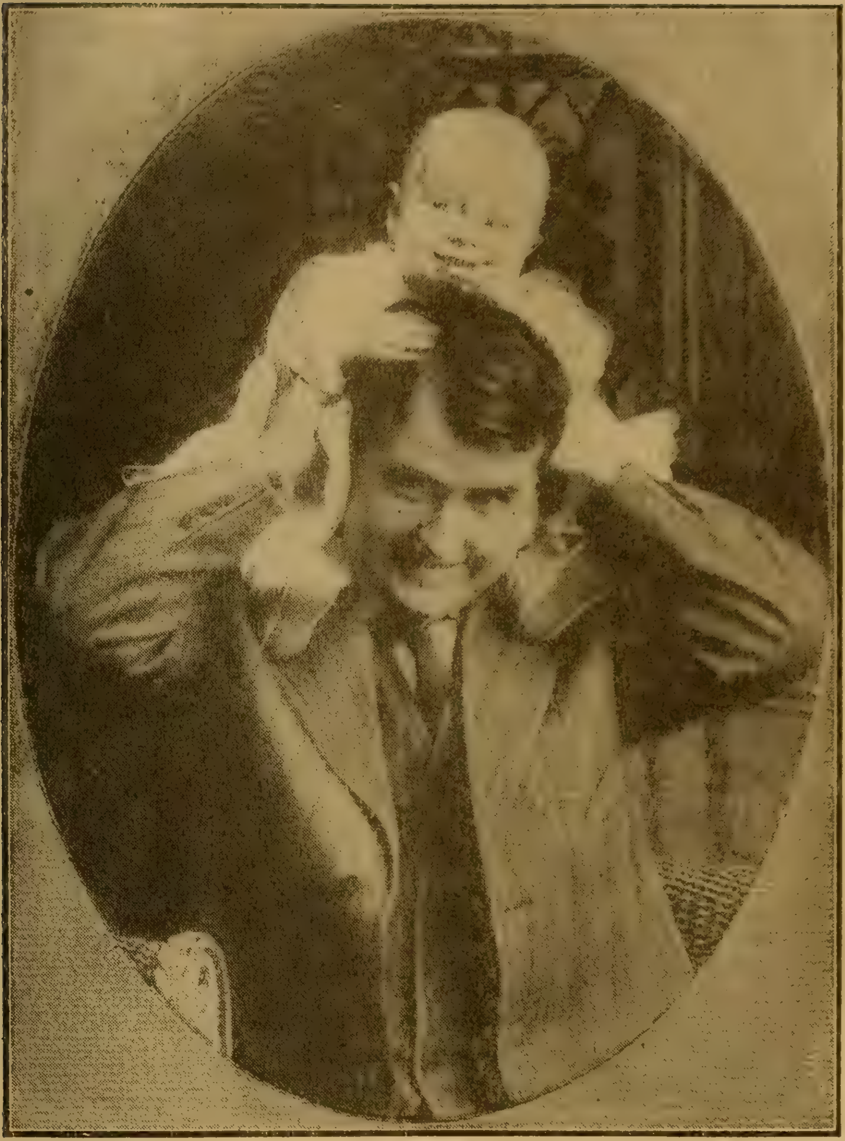
Husband and Lover.—And has the wife no duties? Have the courteous observances, the tender watchfulness, the pleasant words, the never-tiring devotion which won your smiles, your spoken thanks, your kisses—your very self—in days gone by, now lost their value? Does not the husband rightly claim as much as the lover? If you find him less observant of the little courtesies due you, may not this be owing to the fact that you sometimes fail to reward him with the same sweet thanks and sweeter smiles? Ask your own heart.

Dress for His Eyes.—Have the comfort and happiness of your husband always in view, and let him see and feel that you still look up to him with trust and affection—that the love of other days has not grown cold. Dress for his eyes more scrupulously than for all the rest of the world; make yourself and your home beautiful for his sake: try to beguile him from his cares; retain his affections in the same way that you won them. Be polite even to your husband.

A Sanctum of Love.—Let there be a place at home sacred from all ideas of toil—a sanctum of domestic love and sociability, where never intrude the cross word and sour look. With a pleasant greeting and smile welcome him as he comes from the sharp conflict with his fellows. You say, "Are we always to wear a smiling face to chase away his frown? The children have been vexatious, can we always bear it smilingly?" Know this, wives, that when assured of an habitually pleasant reception, the frown will be left at the office, put from the face, closed with the ledger. It is utterly impossible to do otherwise, for like begets like, as surely as operate nature's laws. Become to him a necessary part of himself, a wife in every respect, and he will not fail to respond.

Why Well-Disposed Wives Fail.—"Why is it," asked a lady, "that so many men are anxious to get rid of their wives?" "Because," was the reply, "so few women exert themselves after marriage to make their presence indispensable to the happiness of their husbands." When husband and wife have become thoroughly accustomed to each other—when all the little battery of charms which each play off so skilfully before the wedding day had been exhausted—too many seem to think that nothing remains but the clanking of the legal chains which bind them to each other.

Renew Domestic Felicity.—Renew the attentions of earlier days. Draw your hearts close together. Talk the thing all over. Prayerfully—aye, prayerfully—acknowledge your faults to one another, and determine that henceforth you will be all in all to each other, and my word for it, you shall find in your relation the sweetest joy earth has for you. There is no other way for you



WELCOMING DADDY HOME.

to do. If you are not happy at home you must be happy abroad; the man or woman who has settled down upon the conviction that he or she is attached for life to an uncongenial yoke-fellow, and that there is no way to escape, has lost life; there is no effort too costly to make which can restore to its setting upon the bosom the missing pearl.

Children and Happy Wedlock.—Again: children born in happy and loving wedlock will be more comely, more beautiful, more perfect. Children born in *unhappy* wedlock are less favorably organized, less happily disposed, less comely and beautiful. Loving parents, loving children; quarreling parents, quarreling children. This is the rule. Therefore, for the sake of posterity, we are in duty bound to cultivate the more amiable qualities, and keep the passions in subjection. Grace comes by seeking.

Health and Household Pleasures.—Strive to keep the health, if we would have sunshine in our homes. Nervous irritability and the state of being ill-at-ease—these and many other forms of ill-health may, as a general rule, be avoided by those who endeavor to preserve their health as a sacred duty. If most people have but little health, it is because they transgress the laws of nature, alternately stimulating and depressing themselves. For our own sake and for the sake of others whom we trouble by irritability, we are bound to obey these laws—fresh air. exercise, moderate work, conquest of appetite.

Unpleasant Words at Meal-Time.—The very worst time for a husband and wife to have unpleasant words is dinner-time. He who bores us at dinner robs us of pleasure and injures our health, a fact which the alderman realized when he exclaimed to a stupid interrogator, "With your confounded questions, sir, you've made me swallow a piece of green fat without tasting it."

Many a poor wife has to swallow her dinner without tasting it because her considerate husband chooses this time to find fault with herself, the children, the servants and with everything except himself. The beef is too much done, the vegetables too little, everything is cold. "I think you might look after something! Oh! that is no excuse," and so on, to the great disturbance of his own and his wife's digestion.

God sends food, but the devil sends the few cross words that prevent it from doing us any good. We should have at least three laughs during dinner, and every one is bound to contribute a share of agreeable table-talk, good humor and cheerfulness.

Conditions Demand Charity.—Make allowances for your wife's share of the great inheritance of human nature. Do not expect her to smile in unmoved serenity when children are ungovernable, servants are in high rebellion, and husband comes home cross and hungry. If she is a little petulant, do not bang doors by way of soothing her temper. Just remember that a pleasant word or two, the touch of a kindly hand, or the light of a pitying eye will act like oil on the troubled waters. Even *men* are known to get out of patience sometimes, therefore be not astonished at woman's occasional lapse of self-control!

Vital Questions for Husbands.—1. Have you given to her all of your time which you could spare?

2. Have you endeavored to make amends to her for the loss of her friends?

3. Have you joined with her in her endeavors to open the minds of your children and give them good moral lessons?

4. Have you strengthened her mind with advice, kindness and good books?

5. Have you spent your evenings with her in the cultivation of intellectual, moral or social excellence?

6. Have you looked upon her, as well as yourself, as an immortal being?

7. Has her improvement been as much your aim as your own?

8. Has your desire been to "love her," as St. Paul commands you, and to see her "holy and without blemish?"

9. Has your kind word soothed the irritation of her brow?

10. Has your arm supported her in the day of trial and trouble?

11. Have you truly been a helpmate to her whom you have sworn before God to love and cherish?

Advice to Husband.—Let what we have said add to your desire to serve, to assist to cherish the wife in all possible ways.

Let your children have the example before them of parents bound by one tie, one hope; united here and forever.

Let him whose married life has been short, aid and counsel his young wife.

Let her troubles be yours and her joys be your joys.

Let the wife have all the companionship possible with the husband.

A Beautiful Picture.—There is a picture, bright and beautiful, but nevertheless true, where hearts are united for mutual happiness and mutual improvement; where a kind voice cheers the wife in her hour of trouble, and where the shade of anxiety is chased from the husband's brow as he enters his home; where sickness is soothed by watchful love, and hope and faith burn brightly. For such there is a great reward, both here and hereafter, in their own and their families' spiritual happiness and growth, and in the blessed scenes of the world of spirits.

The Wife Makes Home.—And, wives! do you also consult the tastes and dispositions of your husbands, and endeavor to give to them high and noble thoughts, lofty aims and temporal comfort. Be ready to welcome them to their homes; gradually draw their thoughts while with you from business, and lead them to the regions of the beautiful in art and nature and the true and the divine in sentiment. Foster a love of the elegant and refined, and gradually will you see business, literature and high moral culture blending in "sweet accord."

Mutual Help.—It was thus, surely, that intellectual beings of different sexes were intended by their great Creator to go through the world together: thus united, not only in hand and heart, but in principles, in intellect, in views, and in dispositions; each pursuing one common and noble end,—their own improvement, and the happiness of those around them,—by the different means appropriate to their situation; mutually correcting, sustaining, and strengthening each other; undegraded by all practices of tyranny on the one hand, and of deceit on the other; each finding a candid but severe judge in the understanding, and a warm and partial advocate in the heart of their companion.

Nobody But My Husband.—In America, some women think that anything is good enough to wear at home. They go about in slatternly morning dresses, unkept hair, and slippers down at the heel. "Nobody will see me," they say, "but my husband."

An English lady, visiting the wife of one of the wealthy merchants of India, found her always in full dress, with toilet as carefully arranged as if she were going to a ball.

"Why!" exclaimed the visitor, "is it possible that you take all this trouble to dress for nobody but your husband?"

"Do, then," asked the lady in reply, "the wives of Englishmen dress for the sake of pleasing other men?"

Cleanliness.—Women who neglect cleanliness are peculiarly liable to give out unpleasant odors.

So it is with bad breath. This sometimes arises from neglect of the teeth; sometimes from diseases of the stomach; sometimes from catarrh and the like. A husband is almost forced to hold at arm's length a wife with a fetid breath.

Love Enters Through the Nose.—Perspiration, especially about the feet, under the arms, and the like, cause a very unpleasant smell about many men and women.

Now these disagreeable smells must, in some way, be removed if husband and wife are to retain each other's love.

It is said that love enters through the nose. If that be true, it may well be said that love may be driven out through fetid, filthy feet.

Conjugal Harmony.—In true marriage, when all the conditions are favorable, and husband and wife spend much of their time together, there is a natural tendency to assimilate.

Loving each other and admiring each other's qualities, they insensibly take on each other's characteristics, and finally grow into a strong personal resemblance to each other.

Examples of this conjugal resemblance, in couples who have lived long in happy marriage relations, may be pointed out in almost every community. The harmony between such married people, instead of being lost or broken up by constantly recurring discords, becomes, year by year, sweeter and more complete.

Harmony Lost. Why?—But there are cases in which the opposite result takes place. A good degree of congeniality may exist at the time of marriage, but may afterward be lost.

Instead of climbing the hill of life hand in hand, as they should, they become separated in the crowd, and one is left far behind. They no longer see things from the same point of view, and the unity of thought and feeling which existed at first, is destroyed.

The Wife's Fault.—Sometimes the wife, confined to home by domestic duties; debarred by maternity and the care of her children from mingling in society; deprived, mainly by lack of time and opportunity, of the advantages of lectures and books; and finally, perhaps, losing her taste for intellectual pursuits, remains stationary, or rather deteriorates, intellectually, while the husrand, mingling constantly in society with cultivated people, brought into daily contact with the great movements of the day, beading, thinking and attending lectures, is constantly advancing —gaining new ideas, new views of life, new interests and new aspirations. The congeniality which drew them together in the beginning no longer exists. Harmony is lost. Instead of growing toward each other, they have grown far apart—become mentally strangers to each other.

It May Be the Husband.—In other cases it is the husband who falls behind in the journey of life. Giving himself up entirely to business; spending his days in his counting-room; going home fatigued, listless and indisposed to study, conversation or thought, he neglects books, loses his interest in the new ideas and movements of the age, and instead of leading onward and upward the mind of his intelligent and perhaps ambitious wife, leaves her to find in others the intellectual companionship she craves. Relieved mainly from household cares by a housekeeper and servants, she reads, thinks, goes into society, mingles with cultivated and progressive people, and is constantly advancing in the path of mental improvement. There is the same loss of harmony as in the other case, and the final results are generally more disastrous.

Mutual Growth, Law of Nature.—Young married couples should think of this in time. Remember that growth is a law of nature. But if the conditions are unfavorable we become dwarfed and deteriorate, instead of improving. You should strive to attain the conditions requisite for mental progress, and to equalize them so as to grow up together in mind, as it were, keeping step in the onward march of life. There can be no solid and satisfactory happiness in the conjugal relation without a close sympathy in thought and feeling. To secure this, you must marry congenial partners; and to retain it, you must perpetuate the harmonious conditions existing at marriage by equal advantages, so far as possible, for mental improvement after marriage. Be together as much as possible; read the same books and periodicals; talk about what you read; attend lectures; go together into society, or spend your evenings together at home; and in all things help each other to be true and good, to grow in grace, and in that knowledge which maketh wise unto salvation.

Peaceful Blending.—
I saw two clouds at morning,
Tinged with the rising sun,
And in the dawn they floated on
And mingled into one:
I thought that morning cloud was blest
It moved so sweetly to the west.

I saw two summer currents
Flow smoothly to their meeting,
And join their course, with silent force,
In peace each other greeting:
Calm was their course, through banks of green,
While dimpling eddies played between.

Such be your gentle motion,
Till life's last pulse shall beat;
Like summer's beam and summer's stream
Float on, in joy, to meet
A calmer sea, where storms shall cease,—
A purer sky, where all is peace.
—*Brainard.*

CHAPTER VIII

AFTER MARRIAGE

SECTION ONE—THE CONSUMMATION OF MARRIAGE

Its Signification.—In both law and medicine the prime object of marriage, regarded from a social point of view, is the continuation of the species. Hence, until the preliminary steps to this end are taken, the marriage is said not to be consummated. The precise meaning of the expression is this: "The first time that the husband and wife cohabit together after the ceremony of marriage has been performed is called the consummation of marriage." A marriage, however, is complete without this in the eye of the law, as it is a maxim that consent, not cohabitation, is the binding element in the ceremony.

A Wise Restraint.—A sage morality throughout most civilized lands prohibits any anticipation of the act until the civil officer or the priest has performed the rite. The experience of the world proves the wisdom of this, for any relaxation of the laws of propriety in this respect are fraught, not only with injury to society, but with loss of self-respect to the individual. Those couples who, under any plea whatever, allow themselves to transgress this rule, very surely lay up for themselves a want of confidence in each other and a source of mutual recrimination in the future.

True as this is shown to be by constant experience, yet there have been and still are communities in which the custom is current of allowing and even encouraging such improper intimacies.

When Consummated. — Usually marriage is consummated within a day or two of the ceremony. In Greece the excellent rule prevails that at least three days shall be allowed to elapse between the rite and the act, and it were well if this rule were general. In most cases the bride is nervous, timid, exhausted by the labor of preparation and the excitement of the occasion—indeed, in the worst possible frame of body and mind to bear the great and violent change which the marital relation brings with it.

The Bridal Chamber.—The first hour in the bridal chamber is, to the delicate and sensitive young wife, one of severest trial. However much she may respect her husband, she realizes that he is to her almost a stranger. Yet she should not hesitate. Without a trace of prudishness, she should forget herself in perfect love and trust.

The young husband should fully appreciate the feelings of his bride. With delicate consideration he should strive to spare her modesty. To urge his attentions upon her would be little less than brutal. He should regard her, not as within his power, but as under his protection. By tender caresses he may try to win her to him, but let desire wait her invitation.

Danger Ahead!—The consequence is that in repeated instances the thoughtlessness and precipitancy of the young husband lay the foundation for numerous diseases of the womb and nervous system, and for the gratification of a night he forfeits the comfort of years. Let him at the time when the slow-paced hours have at last brought to him the treasures he has so long been coveting, administer with a frugal hand and with a wise forethought. Let him be considerate, temperate and self-controlled. He will never regret it if he defer for days the exercise of those privileges which the law now gives him, but which are more than disappointing if seized on in an arbitrary, coarse or brutal manner.

A Sign of Low Breeding.—There is no more infallible sign of a low and vulgar man than to hear one boast or even to mention the occurrences on the nuptial night. Who does so, set him down as a fellow devoid of all the finer feelings of his own sex, and incapable of appreciating those of the other. While the newly married man should act so that his tender solicitude and kind consideration could only reflect credit on himself, were they known, he should hide them all under a veil of reticence.

Painful to the Bride.—A husband should be aware that while, as a rule, the first conjugal approaches are painful to the new wife, and therefore that she only submits and can not enjoy them, this pain should not be excessively severe, nor should it last for any great length of time—not more than one or two weeks. Should the case be otherwise, then something is wrong; and if rest does not restore the parts, a physician should be consulted.

A Source of Misery.—It is especially necessary that great moderation be observed at first, an admonition which we the more urgently give because we know it is needed, and because those specialists who devote their time to diseases of women are constantly meeting patients who date their months and years of misery from the night of the consummation of marriage.

Obstacles to the Consummation of Marriage.—We have now to consider the cases where for some incapacity on the one side or the other, it is not possible to consummate marriage. When an incapacity of this kind is absolute or incurable, and when it existed at the time of the ceremony of marriage, both the ecclesiastical law and the special statues of several of the American States, declare the marriage void and of no effect. But the suit must be brought by the injured party, and he or she naturally incapable can not allege that fact in order to obtain a divorce.

TRUE BLISS

An incapacity for marriage may exist in either sex, and it may be in either temporary or permanent.

On the Part of the Bride.—The most common cause of a temporary character is an excessive sensitiveness of the part. This may be so great that the severest pain is caused by the introduction of a narrow sounder, and the conjugal approaches are wholly unbearable. Inflammation of the passage to the bladder, of some of the glands, and various local injuries are also absolute but temporary barriers. Any of these are possible, and no man with a spark of feeling in his composition will urge his young wife to gratify his desires at the expense of actual agony to herself.

THE CHRISTENING.

Conditions of this kind require long and careful medical treatment, and though it is disagreeable to have recourse to this, the sooner it is done the better for both parties.

The Hymen.—A permanent obstacle is occasionally interposed by a hymen of unusual rigidity. It is rare, indeed, that this membrane resists, but occasionally it foils the efforts of the husband, and leads to a belief on his part that his wife is incapable of matrimony.

The Vagina.—A complete or partial absence of the vagina forms an absolute and generally incurable obstacle to conjugal duty on the part of the woman. Such a condition may arise from an injury received earlier in life, and which has allowed the sides to contract and grow together; or she may have been so from birth.

Want of Virility in Man.—Virility is from the Latin *vir*, meaning *man*. A *want* of virility, then, is being incapable of performing the functions of a man. Virility depends upon the ability of a man to secrete the sperm. In that sperm, as one of its parts, is the spermatozoa, the life-transmitting power.

Spermatozoa.—The spermatozoa are exceedingly numerous and active when the secretion is healthy. A single one of them—and there are many hundreds in a drop—is sufficient to bring about conception in a female. They not only have a rapid vibratory motion, but singular vitality.

They are not, however, always present, and when present may be of variable activity. In young men, just past puberty, and in aged men, they are often scarce and languid in motion. Occasionally they are entirely absent in otherwise hale men, and this is one of the causes of sterility in the male. Their presence or absence can only be detected by the microscope.

The organs in which this secretion is elaborated from the blood are the testicles.

Before Puberty.—A secretion is formed before puberty, but it is always without these vibratory bodies. Only after that period is it formed healthily and regularly by the proper glands.

Observers have noted that that produced soon after puberty is feeble, and generally fruitless, or if capable of fecundating, the child thus produced is weakly and apt to be exposed to disease.

A Medical Writer Says:—"In losing the virile powers at an age when it should be vigorous, man loses his self-respect, because he feels himself fallen in importance in relation to his species. Therefore the loss of virile power, real or supposed, produces an effect more overpowering than that of honors, fortune, friends or relatives; even the loss of liberty is as nothing compared to this internal and continual torture."

Lethargy.—There are some individuals who are rarely or never troubled by the promptings of nature to perpetuate life, and yet are by no means incapable of doing so. They are indeed few in number, and are usually slow in mind and of an extremely lymphatic and lethargic temperament. They experience very little desire and no aversion toward the opposite sex.

A want of desire does, however, often occur under circumstances which give rise to great mental trouble. It may have many causes; some mental, others physical. Prolonged and rigid continence, excesses either with the other sex or in solitary vice, a poor and insufficient diet or the abuse of liquors and the pleasures of the table, loss of sleep, severe study, constant thought, mental disturbances, as sorrow, anxiety or fear, the abuse of tobacco, drugs, etc., all may lead to the extinction of the sexual feelings.

When lethargy arises from age or local disease it must be met by a judiciously regulated medical treatment which we cannot detail here.

Debility.—It is not uncommon to find desire present, and yet the consummation of marriage to be impossible from a want of power, although the individual is by no means impotent. This condition is called "false impotence," and often causes great alarm, though generally unnecessarily. In persons of nervous temperaments, though otherwise perfectly healthy, the force of imagination, the novelty, the excitement and the trepidation attendant upon the ceremony of marriage completely overpower them, and they are terrified to find it impossible to perform the duties of their new relation. Sometimes this state of the system lasts for days, weeks and months. Recollecting, perhaps, some early sins, the young husband believes himself hopelessly impotent, and may in despair commit some violent act forever to be regretted.

Impotence of Man.—True impotence consists of want of power, not once, but habitually; not only with prostitutes, but with those whom we most love; not under unfavorable circumstances, but during long periods of time, say five, fifteen or twenty years. Actual impotence during the period of manhood is a very rare complaint, and nature very unwillingly, and only after the absolute neglect of sanitary laws, gives up the power of reproduction.

It is very uncommon to find complete and permanent inability to consummate the marriage rite.

Aversion of Wife to Husband.—Not only sensual women, but all, without exception, feel deeply hurt, and are repelled by the husband whom they may previously have loved dearly, when, after entering the marriage state, they find that he is impotent. The more inexperienced and innocent they were at the time of marriage, the longer it often is before they find that something is lacking in their husband; but, once knowing this, they infallibly have a feeling of contempt and aversion for him. It is the knowledge that they are becoming contemptible and disgusting to their wives, that brings so many young husbands, fearing they are impotent, to the physician. Unhappy marriages, barrenness, divorces, and perchance an occasional suicide, may be prevented by the experienced physician who can give correct information, comfort and consolation when consulted on this subject.

Let Lewd Women Alone.—Under no circumstances should he adopt the scandalous and disgusting advice which immoral associates may give him, to experiment with lewd women in order to test his powers. Such an action must meet *with unequivocal condemnation from every point of view.* Should there be good medical reasons to believe that he is actually impotent, he must not think of marriage. Such an act would be a fraud upon nature, and the law both of church and state declares such a union null and void. Yet even with this imperfection he need not give way to despair or to drink.

Old Age.—The period of virility in man, like that of child-bearing in women, is naturally limited to but a fraction of the whole term of life. The physiological change which takes place in the secretion in advanced years deprives it of the power of transmitting life, and at last the vigor of the function is lost.

Impotence and Venereal Diseases.—Venereal diseases lead, more frequently than do any other class of maladies, to permanent, incurable impotence. They may do so either by an actual destruction of the part, or by exciting inflammation in the secretory apparatus, or by attacking the adjacent parts.

Malformations and Impotence.—Malformation in man is another cause of impotence. These may be natural, dating from birth, or accidental from injury, or from some necessary surgical operation, or from design, as in the case of eunuchs.

Self-Abuse and Impotence.—Self-abuse causes perversion of feeling and debility, but does not affect the character of the secretions, except when *carried to great excess.* It leads to debility, but exceedingly rarely to permanent incapacity.

Obesity may lead to impotence, either mechanically, by causing such an unwieldy growth that the conjugal relation is rendered impossible, or by diminishing desire and power.

Fat children sometimes never manifest in after years any desire for the opposite sex, and there are examples of young men thirty years old who were completely devoid of feeling from the same cause.

The remedy for such a condition is to observe a regimen which will reduce the flesh without impairing the strength.

Other Causes.—The habitual use of opium induces a general prostration of the nervous system and a debility of the powers of generation, which in the slaves to those pernicious habits passes into complete impotence.

General mal-nutrition of the body, lead poisoning, diabetes and some diseases of the spinal cord, also may bring about this condition.

Sterility.—It is possible for a man to consummate marriage when it is utterly impossible for him to have children. His power of transmitting life is gone forever. That is, impotence and sterility do not mean the same thing.

Conditions of Sterility.—The conditions of sterility in man may arise either from a condition of the secretions which deprives it of its fecundating powers, or it may spring from a mal-formation which prevents its reaching the point where fecundation takes place.

The condition of sterility is the most common in old age, and as a sequence of venereal disease, or from a change in the structure or functions of the glands.

Sterility from mal-formation has its origin in a stricture or in an injury or in debility.

Electricity a Remedy.—Where sterility depends upon a deficient secretion of the seminal fluid, the patient may have a fair chance of improvement, always provided no organic disease is present. A regulated diet, tonics and a change of climate will do much; but it is the judicious application of electricity from which most is to be hoped.

The value of this medicinal agent in debility and failure of the generative powers has long been recognized by professional men. It acts as a powerful stimulant, and when combined with proper general treatment holds out a promise of improvement and often of cure, in most cases where no structural change has taken place. But it is a useless and even a dangerous remedy in ignorant hands.

Excessive Passion Dangerous.—Those who ignorantly and rashly imagine that excessive passion is a mark of vastly increased vigor, and felicitate themselves on the change, will have bitterly to rue their error in after years.

Marriage Natural and Beneficial.—It is evident that wedded life is the best condition for man. Mortifying the flesh to subdue the sexual passions, as is practiced by ascetics, is more apt to concentrate the attention of the mind on the very things sought to be avoided.

Purity of thought is better accomplished by turning the thoughts, through the action of the will, from sexual things toward the non-sexual. One who has insufficient sleep is always sleepy. One with insufficient food is always hungry. Sexual instincts *properly satisfied* relieve the mind of sexual thoughts. The marriage state makes it possible for man and woman to live a life of continence more successfully than by living a single life.

Long Life and Marriage.—Statistics show that married men live longer than bachelors.

Married, child-bearing women live longer than spinsters. Wives also have better health than their unmarried sisters. This, too, in spite of the added dangers associated with childbirth. Many delicate and ailing women have become robust during the rest of their lives after marriage and the birth of one or more children.

Nature seems to compensate the mother for her pains and care of maternity.

Other Physical Benefits from Marriage.—We are able to state, on many good authorities, that marriage purifies the complexion, removes blotches from the skin, invigorates the body, gives a freedom and elasticity of carriage, a full and firm tone of voice, and is the medium through which nature makes the human species tranquil, happy, healthy, contented, useful and wise.

MOTHERHOOD.

Liberties Before Marriage.—Kissing, embracing, sitting in lover's lap, leaning on his breast, long periods of secluded companionship are dangerous conditions. Thoughtful parents should have a profound fear at the dangers surrounding such a state of affairs. It is a marvel that so many ladies arrive safely at the wedding day. If our young women realized the danger of arousing the sexuality even of the best men, they would shudder at the risk they run. Don't do it, ladies!

The enjoyments of that delightful period of life between the betrothal and marriage should not be unreasonably curtailed.

A Warning.—It is said, "A woman in love will refuse nothing to a persistent lover." We do not believe it is true; but still we recognize the fact that here is danger. We doubt the genuineness of the "lover" who "persistently" would seek the ruin of the one he loves. But the element of sensuality is very strong in many men, and if there is a want of moral tone in the supposed lover, both the man and maiden may be swept into ruin.

Tests of Virginity Unreliable.—The consummation of marriage with a virgin is by no means necessarily attended with a flow of blood, and the absence of this sign is not the slightest presumption against her former chastity. In stout blondes it is even the exception rather than the rule; and in all young women who have suffered from leucorrhœa, the parts are relaxed and flowing does not occur.

So, too, the presence or absence of the hymen is no test. Frequently it is absent from birth, and in others it is of exceeding tenuity, or only partially represented. There is, in fact, no sign whatever which allows even an expert positively to say that a woman has or has not suffered the approaches of one of the opposite sex.

The True and Only Test which any man should look for is modesty in demeanor before marriage, absence both of assumed ignorance and a disagreeable familiarity, and a pure and religious frame of mind. Where these are present, he need not doubt that he has a faithful and chaste wife.

SECTION TWO—CHASTITY IN THE MARRIED RELATION

Different Views on Sexual Union.—The practice of married people varies according to the views held by different individuals. It is sad to know that multitudes of married couples go at this matter in a "slam-bang" way, merely as uncontrolled passion dictates, thus impairing themselves and their offspring.

There are three theories as follows:

First.—Those who claim that the sexual relation should never be entered into except for procreation.

Second.—Those who believe that it is a love act.

Third.—Those who hold that sexual intercourse as a physical necessity for man, but not for woman.

First Theory Discussed.—Perhaps Dr. Cowan's statement of what he calls true continence will make this matter clear. He says: "The highest enjoyable season at which a healthy woman desires sexual congress is immediately following the cessation of her monthly menses, and this is the season in which the reproductive element is most intensified, and when her whole organism is ready to take on the loving and holy duties of reproduction—the originating and developing of a new life.

"The man and wife come together at this period with the desire for offspring; impregnation and conception follow, and from that time until the mother has again menstruated—which occurs after the weaning of the child, which in duration extends to about eighteen or twenty-one months—*sexual intercourse should not be had by either husband or wife.*

"Do you mean that the man should have no sexual intercourse for twenty-one months?'

"That is precisely what is meant—precisely what nature intended. *This is the only true solution of God's divine law in the government of the reproductive element in mankind.*

"A continent man, therefore, is one who possesses the power to reproduce his species, and who, through a true life and firm will, exercises his reproductive element only at the right seasons, and only for the purpose of reproduction." The italics are Dr. Cowan's.

It is not impossible to live up to the theory thus advanced. We have shown in other parts of this book that there are other uses for the reproductive element in man than the generation of offspring. But the altitude is too high for the great mass of mankind.

The Second Theory.—The second theory (that coition is a love act) seems to us to be within the bounds of possibility, and has some things in its favor.

The act should be mutual on the part of man and wife; and when procreation is not desired, care should be taken as to the proper time in relation to the monthly period.

This act is a mutual exchange of love, giving health and vigor to each. But more than all, it keeps alive that flame of sacred fire which burns in the breasts of a truly wedded pair. It is an inexplicable bond of union. There is no such thing as "Platonic love" between the sexes; but there is something better—conjugal, maternal and paternal love.

Sex-force is the basis of all the nobler attributes of mankind. When Christ wished to illustrate that invisible, loving bond of union between Himself and His people, He used conjugal love as a symbol—He is the bridegroom, the church is the bride.

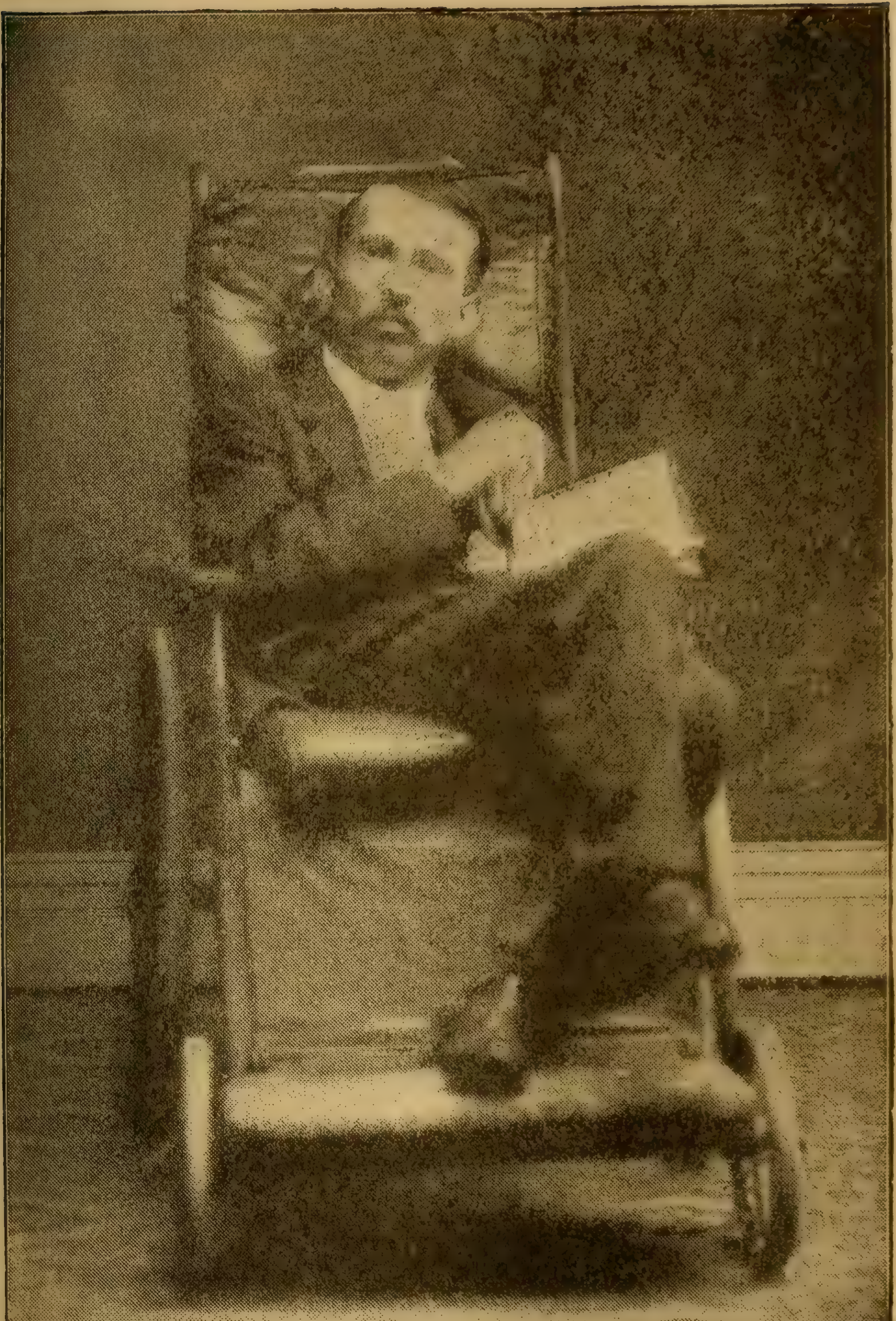
Herein is where the second theory surpasses both the first and the third. Separation breeds coldness; presence and association give warmth to both love and friendship.

By the third theory, the supposed demands of the husband lead almost universally to over-indulgence, and cause the wife many times to all but abhor the sexual presence of her lascivious husband.

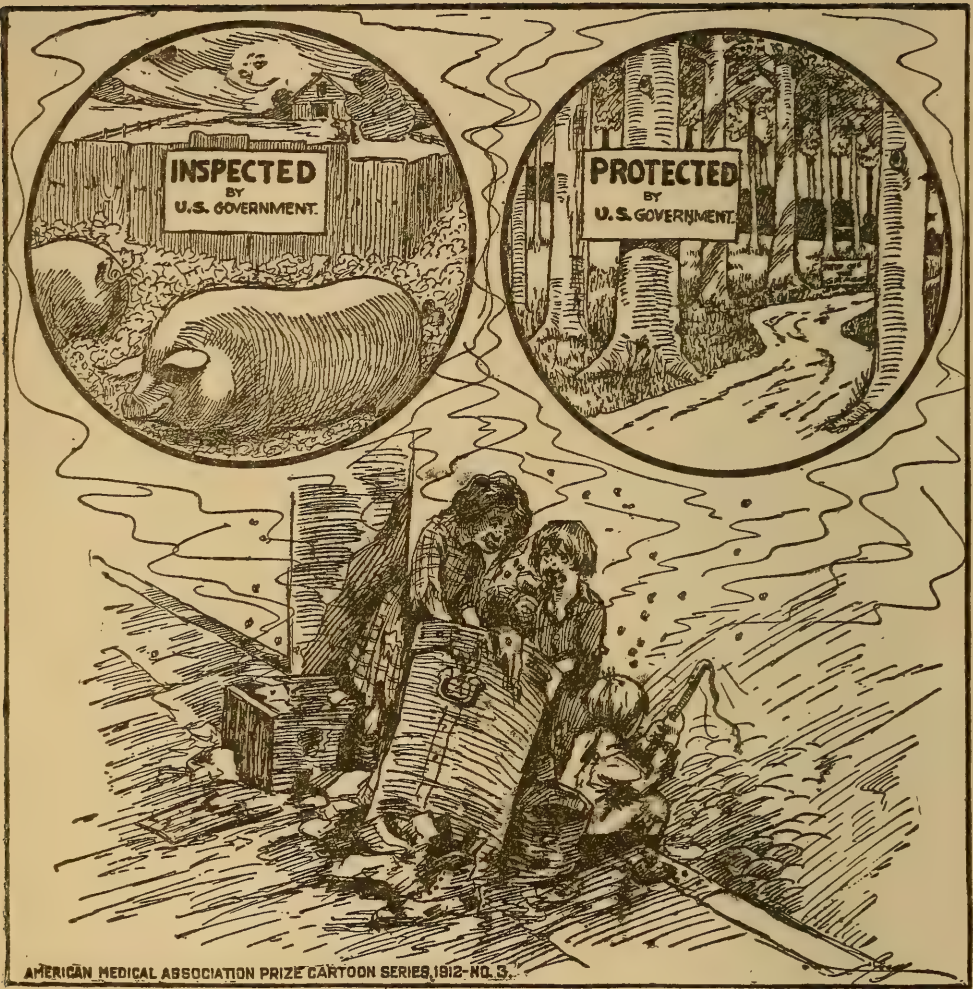
The Third Theory.—What are some of the results of the third theory? Let us see.

1. In the marriage relation, it requires the wife to be man's prostitute, that the husband may meet the *necessities* (?) of his nature.
2. In the unmarried state, it leads to one or all of the following: Prostitution, fornication, masturbation, or some other abominable practice.
3. In any state, it teaches a double standard of morals, one for man and another for woman. In such conditions there is no room for Miss Willard's "A White Life for Two."
4. It leads, logically, to over-indulgence in the sexual act. Parents and children are made to suffer. It lowers the whole moral and physical tone of the race. Men and women lose their vitality; the children are puny, scrawny beings, many of whom in early life pass to untimely graves.

We repeat again the statement we have already made: **It is not necessary to health to expend man's sexual force.**



Results of Conception when the Father was Intoxicated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AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES, 1912-NO. 3.

NEGLECTED!

The above chart illustrates the attitude of our government and the commercial spirit of our age toward forests, domestic animals, mothers and children. If our mothers and children could be given a commercial value, based on their beauty, perfection of form, health and character, rated in value on a par with a $2,600 chicken, a $4,600 hog, a $13,000 cow, or a $20,000 horse, the initial of every child would be intelligently planned for, its prenatal rights would be respected, its nativity warmly welcomed and its environments would be wisely safe-guarded.

CHAPTER IX

HUSBAND AND WIFE

SECTION ONE—THE MARRIAGE BED

The Bed-Chamber.—The bed-chamber should be large and airy. But very few bed-chambers are sufficiently large to afford plenty of fresh air without some form of ventilation. No one or two or three or more should sleep in an ordinary bedroom without ventilation. We shall speak further on this subject under "Ventilation."

In the Same Bed.—Should husband and wife sleep in the same bed? This is customary in America; it is the rule, but, of course, there are exceptions. There are good reasons for both customs. In the light of hygiene, pure and simple, the argument for the single bed is decisive.

It is also claimed that the temptation to over-sexual indulgence is too great. The close and constant contact of bodies leads to excitement, and therefore requires greater will-power to overcome the temptation.

On the other hand, in sleeping apart there is loss of that affection which should subsist between man and wife. In the separation of husband and wife there is danger that the bond of union may be loosened and possibly broken. Separation breeds coldness, distrust and indifference. Nearness of body leads to a nearness of spirit, and mutual trust and love are fostered by the fact of contiguity.

An Exception.—Only when disease, or some avocation which leads to disturbed slumbers, is to be taken into account, do we recommend the opposite plan. Consumption is contagious, and of course many chronic skin diseases notoriously are so; and if present, it is too severe a demand for the sufferer to make that a healthy person should needlessly be exposed to the danger of illness.

Neatness of Attire.—Women have more delicate sensibilities than men; they are readily pleased or repulsed by little things; the husband who is anxious to maintain pleasant relations in his home circle will do well not to neglect the cares of toilet.

Frequent changes of underclothing are desirable on this account, as well as for general hygienic reasons, and any pains bestowed on keeping the attire neatly arranged and well cared for will not be lost.

Passion in Women.—There are many females who never feel any sexual excitement whatever; others, again, to a limited degree, are capable of experiencing it. The best mothers, wives and managers of households know little or nothing of the sexual pleasure. Love of home, children and domestic duties are the only passions they feel. As a rule, the modest woman submits to her husband, but only to please him; and, but for the desire of maternity, would far rather be relieved from his attentions. This is doubly true of woman during the periods when they are with child, and when they are nursing.

Hallowed Pleasures.—Jeremy Taylor, the quaint old English divine, says: "Married people must be sure to observe the order of nature and the ends of God. He is an ill husband that uses his wife as a man treats a harlot, having no other end but pleasure. The pleasure should always be joined to one or another of these ends—with a desire for children, or to avoid fornication, or to lighten and ease the cares and sadness of household affairs, or to endear each other, but never with a purpose, either in act or desire, to separate the sensuality from these ends which hallow it.

"Married people must never force themselves into high and violent lusts with arts and misbecoming devices, but be restrained and temperate in the use of their lawful pleasures."

Complete Cessation.—There are certain periods when a complete cessation should be observed. One of these is during the monthly sickness of the wife, and for a day or two after that epoch.

The Mosaic law pronounces a woman "unclean" for a number of days after her monthly illness.

During pregnancy and nursing, conjugal relations should be few and far between. Some authorities condemn them altogether. Perhaps that is somewhat extravagant. With care, they may do no harm. Miscarriage is sometimes caused by too violent action.

A Dangerous Period.—During and after the change of life, it is also important to observe an unwonted moderation. During that period any unaccustomed excitement of this character may be followed by flooding and other serious symptoms, while after the crisis has been passed, the sexual appetite itself should wholly or almost wholly disappear.

Danger of Excess.—The married man who thinks that, because he is a married man, he can commit no excess, no matter how often the sexual act is repeated, will suffer as certainly and as seriously as the debauchee who acts on the same principle in his indulgences, perhaps more certainly from his very ignorance, and from his not taking those precautions and following those rules which a career of vice is apt to teach a man. Till he is told, the idea never enters his head that he has been guilty of great and almost criminal excess, nor is this to be wondered at, as such a cause of disease is seldom hinted at by the medical man he consults.

Nature of Excess.—The nature of excess may be twofold; either it is a long-continued indulgence beyond the average power of the man to withstand, or it is brief and violent.

A Noted Physician's Opinion.—"A great excess for a few days only, acting like a 'shock,' may manifest its consequences in the nervous system at a long distant subsequent period. A sudden, short, yet great excess may be more dangerous than more moderate, albeit excessive indulgence, extending over a long period. In certain constitutions, although only indulged in legitimately and for a short period, as after marriage, such excess may act like a shock or concussion of the spinal cord, or like a blow on the head, and may give rise to serious chronic diseases, as epilepsy, insanity and paralysis."

A Foolish Notion.—A foolish notion sometimes prevails that it is necessary to health to have frequent intercourse. There is no condition of life more thoroughly in accordance with perfect vigor than chaste celibacy. Next to this comes moderation in married life. It is never required for sanitary reasons to abuse the privileges which law and usage grant. Any such abuse is pretty sure to bring about debility and disease.

A General Rule.—Generally speaking, the hygienic rule is, that after the act the body should feel well and strong, the sleep should be sound, and the mind clear. Whenever this is not the case, when the limbs feel languid, the appetite feeble or capricious, the intellect dull and the faculties sluggish, then there is excess, and the act should be indulged in more rarely.

Those who observe strictly this rule will need no other, and will incur no danger from immoderate indulgence.

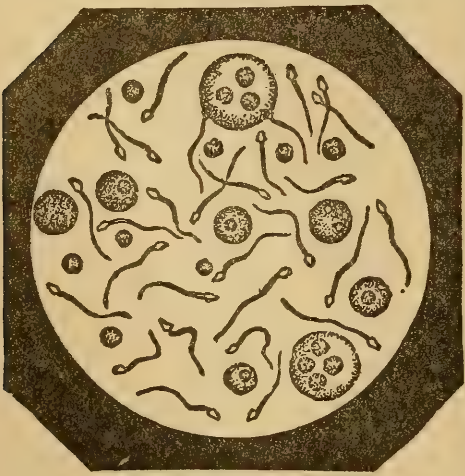
Marriage and Transmitting of Life.—The differences of the sexes, the emotions which depend upon these differences, and the institution of marriage are primarily and directly existent for the purpose of transmitting life, or, to put it more plainly, for having children. Every married couple must distinctly and constantly impress this truth upon their minds, and be governed by it in their life. Whatever relations they bear to each other, whatever duties they may owe to society and themselves, all of them are subordinate to the paramount obligation of having and raising a family. We care not what excuse may be imagined in order to escape this duty, it is inadmissible. Nothing short of positive incapacity can exculpate either party.

Season for Conception.—It is not only their duty to have, not merely a child or two, but a family of children; but also, to do all in their power that their offspring have all the natural advantages which it is possible to give them. It may not be generally known that this matter touches some of the most intimate and earliest relations of the married couple. But, nowadays, physicians at least are fully satisfied that the season and manner of conception, the condition of father and mother at the time, and several attending circumstances, exercise a most important influence on the newly-formed being.

Nature of Conception.—Every human being originates from an egg. Every one of us commenced our existence in an egg. The human egg, however, has no shell, and is not, as with fowls and many lower animals, deposited outside the body. The female matures one or several at each of her monthly periods, and they pass from the sac which has hitherto contained them on their way to the outer world. They are so minute that they are hardly visible to the naked eye, and so delicate in structure that they readily perish. They remain a longer or a shorter time in their passage from the spot where they are formed to their destination, sometimes requiring but a day or two, at others probably a week or two.

The Egg and Sperm Meet.—During this passage, should they come in contact with the secretion of the male, the vibratory bodies called spermatozoa surround the egg, penetrate into it perhaps, and fecundate it. At this moment conception has taken place, and a new member of the species has commenced its individual life.

An Explanation.—It will be understood that the spermatozoa of man (as in all mammalia) are living, active semi-animals, with the power of *locomotion*, while the female ovum is *passive*, with no power to move itself from place to place. The ovum is moved by forces outside of itself; the spermatozoon seeks the ova by its own inner force. Hence, if the spermatozoa be placed within the female vagina by any means, they will find their way into the womb, and if a ripe ovum is in place, there will be a union of one of the spermatozoa (a spermatozoon) with the ovum, and thus a new life is brought into being.



Semen Highly Magnified.

Artificial Impregnation.—Union is not essential to impregnation; it is possible for conception to occur without congress. All that is necessary is that seminal animalcules enter the womb and unite there with the egg or ovum, as explained above. It is not essential that the semen be introduced through the medium of the male organ, as it has been demonstrated repeatedly that by means of a syringe and freshly obtained and healthy semen, impregnation can be made to follow by its careful introduction.

SECTION TWO--THE REPRODUCTIVE ORGANS

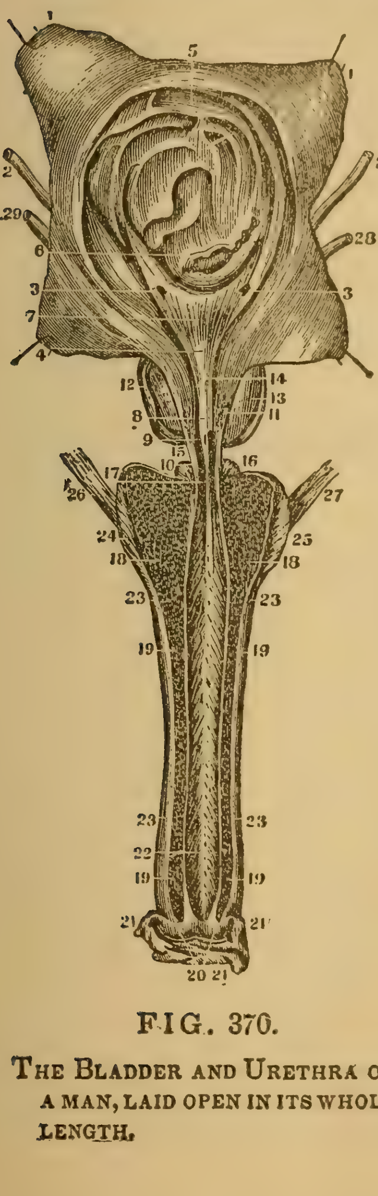


FIG. 370.

The Bladder and Urethra of a man, laid open in its whole length.

1. The Bladder, cut open by a crucial Incision and the four Flaps separated.
2. The Ureters.
3. Their Vesical Orifices.
4. Uvula Vesicæ. The Triangle formed by the Points at 3.4 is the Vesicle Triangle.
5. Superior Fundus of the Bladder.
6. Bas Fond of the Bladder.
7. The smooth Centre of the Vesical Triangle.
8. Verumontanum or Caput Gallinaginis.
9. Orifice of the Ductus Ejaculatorius.
10. Depression near the Verumontanum.
11. Ducts from the Prostate Gland.

12.13. Lateral Lobes of the Prostate Gland.

14. Prostatic Portion of the Urethra; just above is the Neck of the Bladder.
15. Its Membranous Portion.
16. One of Cowper's Glands.
17. The Orifices of their Excretory Ducts.
18. Section of the Bulb of the Urethra with its Erectile Tissue.
19. Cut Edges of the Corpora Cavernosa.
20. Cut Edges of the Glans Penis.
21. Prepuce dissected off.
22. Internal Surface of the Urethra laid open.
23. Outer Surface of Corpora Cavernosa.

24.25. Accelerator Urinæ Muscle.
26.27. Erector Penis Muscle.

THE FEMALE SEXUAL ORGANS

The generative or reproductive organs of the human female are usually divided into the internal and external. Those regarded as internal are concealed from view and protected within the body. Those that can be readily perceived are termed external. The entrance of the vagina may be stated as the line of demarcation of the two divisions.

External Organs.—1. The *labia majora*, or greater lips, and the

2. *Labia minora,* or lesser lips, are formed by double folds extending downward from the *mons veneris*, the prominent eminence formed by fatty tissue, just above the organ.

3. *The clitoris* is a prominent erectile structure, situated at the upper part of the opening between the folds of the *labia minora* just where the lips come together. This is the counterpart of the glands penis in man.

4. *The hymen* is a membranous fold which partly closes the opening to the vagina.

5. *Vulva* is a term applied when speaking of all of these external parts.

Internal Organs.—1. *The Vagina* is a canal about five or six inches long, which extends from the vulva to the uterus. This organ is very distendible, and plays an important part in childbirth.

2. *The Uterus* is situated between the bladder and the rectum in the cavity of the pelvis. It is held in position by the broad bands of peritoneum on each side, which extend from the sides of the uterus to the walls of the pelvis, and is supported by the uterus.

3. *The Fallopian tubes* are two in number, situated one on each side of the uterus, in the broad ligament extending from the uterus to the sides of the pelvis. They convey the ova from the ovaries to the cavity of the uterus.

4. *The Ovaries* —The ovaries are oval shaped bodies, situated one on each side of the uterus, behind and below the Fallopian tubes, in the posterior part of the broad ligament. They are about an inch and a half long, three-quarters of an inch wide, and one-third of an inch thick.

CHAPTER X

CHILD-BEARING

SECTION ONE—PREGNANCY

Veneration for the Pregnant.—"In no period of her life is woman the subject of interest so profound and general as at the time when she approaches the sacred threshold of maternity. The young virgin and the new wife have pleased by their grace, spirit and beauty. The pregnant wife is an object of active benevolence and religious respect. It is interesting to note how, at all times and in all countries, she has been treated with considerate kindness and great deference. She has been made the subject of public veneration, and sometimes even of religious worship. At Athens and at Carthage the murderer escaped from the sword of justice if he sought refuge in the house of a pregnant woman. The Jews allowed her to eat forbidden meats. The laws of Moses pronounced the penalty of death against all those who by bad treatment or any act of violence caused a woman to abort.

Lycurgus compared women who died in pregnancy to the brave dead on the field of honor, and accorded to them sepulchral inscriptions. In ancient Rome, where all citizens were obliged to rise and stand during the passage of a magistrate, wives were excused from rendering this mark of respect, for the reason that the exertion and hurry of the movement might be injurious to them in the state in which they were supposed to be. In the kingdom of Pannonia all enceinte women were in such veneration, that a man meeting one on the road was obliged, under penalty of a fine, to turn back and accompany and protect her to her place of destination. The Catholic Church has in all times exempted pregnant wives from fasts. The Egyptians decreed, and in most Christian countries the law at the present time obtains, that if a woman shall be convicted of an offense the punishment of which is death, the sentence shall not be executed if it be proved that she is pregnant." —*Geo. H. Napheys, M. D.*

Signs of Pregnancy.—One of the first signs of pregnancy is that of the cessation of the menses. As a sign, it is not to be depended upon by itself alone. Ceasing to be "unwell" may arise from various causes. In the great majority of cases, however, the menses cease to flow after conception has taken place.

FIG. 400.

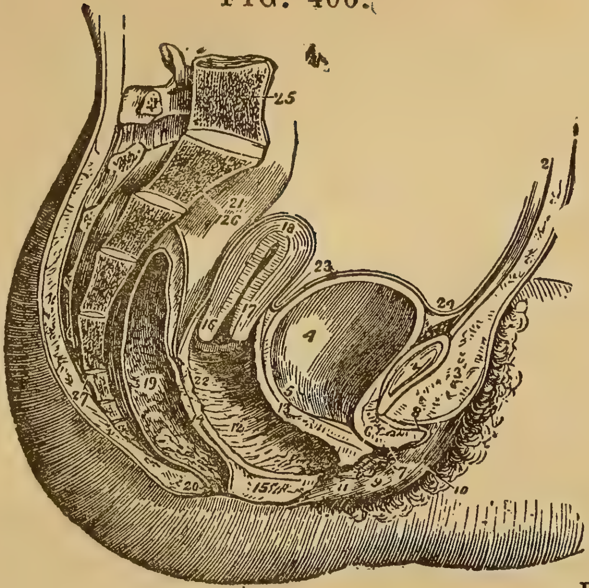


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FIG. 401.

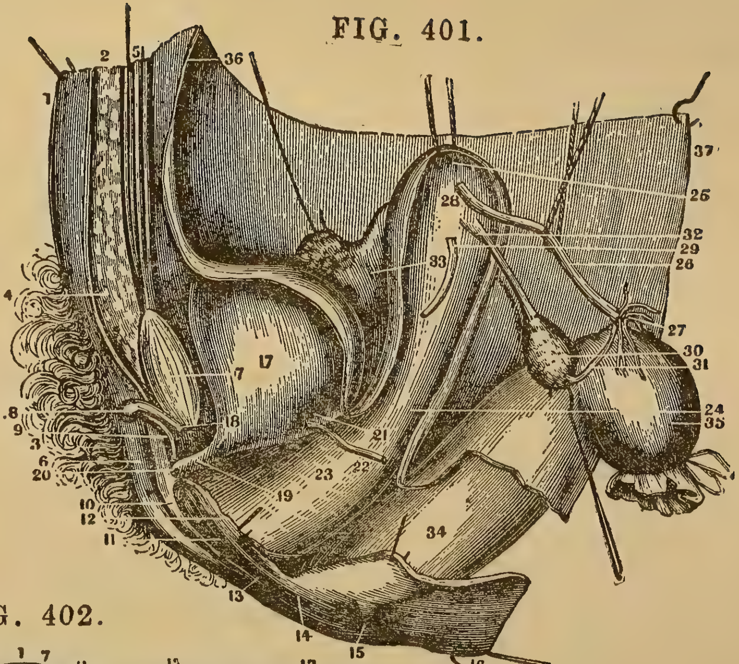

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FIG. 402.

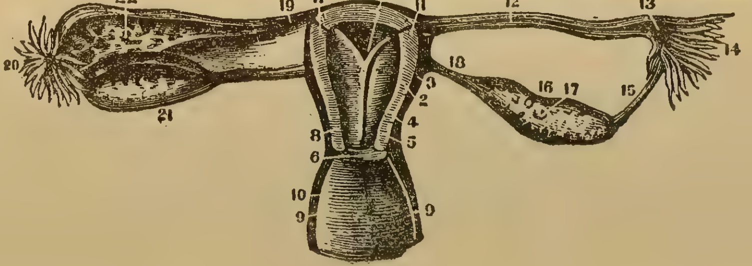

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FIG. 400.

A Side View of the Viscera of the Female Pelvis.

1. Symphysis Pubis.
2. Abdominal Parietes.
3. The Fat forming the Mons Veneris.
4. The Bladder.
5. Entrance of the Left Ureter.
6. Canal of the Urethra.
7. Meatus Urinarius.
8. The Clitoris and its Prepuce.
9. Left Nympha.
10. Left Labium Majus.
11. Orifice of the Vagina.
12. Its Canal and Transverse Rugæ.
13. The Vesico-Vaginal Septum.
14. The Vagino-Rectal Septum.
15. Section of the Perineum.
16. Os Uteri.
17. Cervix Uteri.
18. Fundus Uteri.
19. The Rectum.
20. The Anus.
21. Upper Portion of the Rectum.
22. Recto-Uterine Fold of the Peritoneum.
23. Utero-Vesical Reflection of the Peritoneum.
24. The Peritoneum reflected on the Bladder from the Abdominal Parietes.
25. Last Lumbar Vertebra.
26. The Sacrum.
27. The Coccyx.

FIG. 401.

A Vertical Section through the Linea Alba and Symphysis Pubis so as to show the Bladder, Vagina, Uterus and Rectum in Situ.—The Peritoneum has been cut at the Points where it is Reflected.

1. Anterior Parietes of the Abdomen.
2. Sub-Cutaneous Cellular Tissue.
3. Hairs on the Mons Veneris.
4. Cellular Tissue on the Mons Veneris.
5. Rectus Abdominis of the Right Side.
6. Right Labia Majora.
7. Symphysis Pubis.
8. The Clitoris.
9. Its opposite Crus.
10. Right Labia Minora.
11. Orifice of the Vagina.
12. Portion of the Left Labia Minora.
13. The Fourchette, or Posterior Commissure of the Vulva.
14. The Perineum.
15. The Anus.
16. A Portion of the Integuments of the Buttock.
17. Left Side of the Bladder.
18. Neck of the Bladder.
19. The Urethra.
20. Meatus Urinarius.
21. Entrance of the Left Ureter into the Bladder.
22. Left Ureter cut off.
23. Left Side of the Vagina.
24. Left Side of the Neck of the Uterus outside of the Vagina.
25. Fundus of the Uterus.
26. Left Fallopian Tube separated from the Peritoneum.
27. Its Fimbriated Extremity.
28. Its Entrance into the Uterus.
29. Left Round Ligament.
30. Left Ovary.
31. Fimbriated Portion which unites the Tube to the Ovary.
32. Insertion of the Ligament of the Ovary to the Uterus.
33. Right Broad Ligament of the Uterus.
34. Lower Portion of the Rectum.
35. Rectum turned off and tied.
36. The Peritoneum lining the Anterior Parietes of the Abdomen.
37. The Peritoneum which covers the Posterior Parietes of the Abdomen.

FIG. 402.

The Uterus, Fallopian Tubes, Ovaries and a Part of the Vagina of a Female of Sixteen Years. On one Side the Tube and Ovary is divided Vertically; the other Side is untouched. The Anterior Portion of the Uterus and Vagina have also been removed.

1. Fundus of the Uterus.
2. Thickness of its Parieties anteriorly.
3. External Surface of the Uterus.
4. Section of the Neck of the Uterus.
5. Section of the Anterior Lip.
6. Its Posterior Lip untouched.
7. Cavity of the Uterus.
8. Cavity of its Neck.
9. Thickness of the Walls of the Vagina.
10. Its Cavity and Posterior Parietes.
11. Openings of Fallopian Tubes into the Uterus.
12. Cavity of the Left Tube.
13. Its Pavilion.
14. Corpus Fimbriatum.
15. Its Union with the Ovary.
16. Left Ovary vertically divided.
17. The Vesicles in its Tissue.
18. Ligament of the Ovary.
19. Right Fallopian Tube, untouched.
20. Its Corpus Fimbriatum.
21. Right Ovary.
22. The Broad Ligament.

FEMALE ORGANS OF GENERATION

One sign, with many ladies, is an increase in the size of the neck, which usually occurs in a few days after conception.

Sometimes women menstruate during the entire period of gestation. This, of course, is an abnormal condition and should be remedied.

Again, women who have never menstruated have been known to bear children.

Pregnancy seldom takes place under such conditions, but it is not an unusual occurrence for women not to menstruate from one pregnancy to another. This indicates too rapid child-bearing.

Morning Sickness.—Morning sickness is regarded as one of the most reliable early symptoms. If it appears at all, it generally occurs within three weeks, and may present itself within a few days after conception. This derangement of the stomach is manifested in various ways. Frequently there is great loathing of food, nausea of a most distressing character, and vomiting of anything taken into the stomach, particularly in the morning. Many women, however, are never troubled with the morning sickness. There is also in some cases a certain longing for unusual articles of food, and when not gratified in her fancies, the individual exhibits such disappointment that it is certainly better to indulge her vagaries, when not positively injurious. Usually all disturbances of the stomach disappear by the third or fourth month, the appetite becomes regular and the digestion good, and the whole body takes on an appearance of bloom and health.

External Signs.—Owing to the direct and intimate sympathy existing between the uterus and breasts, pregnancy is generally indicated by changes in the latter organs. They may become somewhat painful and swollen, the nipple is elevated, and the areola, or circle around it, assumes a dark brown hue, and is dotted with small tubercles. The nipple enlarges, and as pregnancy advances milk can be forced from it by pressure. Milk in the breasts, however minute in quantity, is a pretty sure sign, especially in a first pregnancy. Great importance is attached to the increased darkness in the color of the circle around the nipple, and it is a sign which rarely fails; like all presumptive signs of early pregnancy, though, it can hardly be relied upon alone.

Besides the changes in the nipple and the enlargement of the breast, the veins look more blue, and the whole substance is firmer and more knotty to the touch.

Enlargement of the abdomen, though an invariable accompaniment of pregnancy, can not positively be relied upon as a symptom, as other causes may produce it; besides, in many cases the development of the abdomen is not observed till rather late.

It may be occasioned by various causes. Instances are quite common where women have made careful preparation for confinement, only to be disappointed by finding they were suffering from some serious disease causing suppression of the menses.

From the third to the eighth month the abdomen continues to enlarge.

Quickening.—The movements of the child occur from the eighteenth to the twentieth week. Sometimes these motions begin as early as the third month, and then they are a feeble fluttering only, causing unpleasant sensations of fainting and nausea.

The motion of the child is regarded by women of experience as an unfailing sign. But cases are common where the throbbing of a tumor and other causes have been mistaken for fetal movements. Though at first feeble, after a time the motions become more quick and frequent, and a lady is not only able to recognize her condition, but the very period of her pregnancy.

The Fetal Heart.—In the fifth month there is a sign which, if detected, furnishes clear evidence of conception, and that is the sound of the child's heart. If the ear be placed on the abdomen over the womb, the beating of the fetal heart can sometimes be heard quite plainly; and by the use of an instrument called the stethoscope, the sounds can be still more plainly heard. This is a very valuable sign, inasmuch as the presence of the child is not only ascertained, but also its position, and whether there are twins or more.

Will it Be a Boy or a Girl, or Twins?—By the use of the stethoscope, during the three last months of pregnancy, may be ascertained the sex of the fetus; even without that instrument, the inquirer, if he possess good hearing, may decide this; for science states that the number of beats to the minute of the fetal male heart is from 120 to 130; those of a female, from 140 to 150. The ear should be pressed firmly against the abdomen. In the same way, if *two* distinct pulse-beats of different rapidity are made out, *twins* may be suspected; especially if two prominences appear in the shape of the abdomen with some depression between; unusual *size* would be merely corroborative and not alone of particular value for a decision.

Other Signs.—Some ladies are afflicted by the appearance of more or less prominent and dark yellowish-brown spots or patches on the face, generally upon the forehead, nose and over the cheek bones. These disappear after the birth.

While before the fifth month there is no one sign that may be depended on with absolute certainty, any person with ordinary powers of observation will have little trouble in distinguishing pregnancy from other conditions that bear more or less resemblance. After the fetal heart-beat is detected no further difficulty will be experienced, for in that we have a sure sign of pregnancy.

The morning sickness, though a valuable sign, is by no means constant.

Even in the absence of some symptoms, there will not be much trouble, as a rule, to recognize the true condition, especially if the menses have ceased.

Changes in the Mind.—The most wonderful of all the changes which attend pregnancy are those in the nervous system. The woman is rendered more susceptible, more impressible. Her character is transformed. She is no longer pleasant, confiding, gentle and gay. She becomes hasty, passionate, jealous and bitter. But in those who are naturally fretful and bad-tempered a change for the better is sometimes observed, so that the members of the household learn from experience to hail with delight the mother's pregnancy as a period when clouds and storms give place to sunshine and quietness. In some rare cases, also, pregnancy confers increased force and elevation to the ideas, and augmented power to the intellect.

How to Calculate the Time of Birth.—If the precise day on which conception took place were known, there would be no difficulty in calculating the time that delivery should occur. The usual number of days for the duration of pregnancy is two hundred eighty (280) days or forty (40) weeks. While this is the average, there are undoubtedly cases in which the time is exceeded, or fallen short of, by a few days.

First children are frequently born within less than 280 days; and the fact of a woman giving birth to her first child within a little less than nine months of her marriage, should not necessarily fix upon her the charge of unfaithfulness or bring her virtue into question.

Legitimate Birth.—Different countries vary somewhat in their laws affecting the legitimacy of children, though in the main there is not a wide variation. The usual legal time is fixed at nine calendar months, allowing a latitude of a few days on either side. France does not call the legitimacy of a child into question, who has been born three hundred days after the death or absence of the legal parent. According to the laws of Scotland, a child is a bastard who is born later than ten calendar months after the absence of the legal husband.

Unusual Cases.—Women about whom there can be no doubt, have gone ten months with child, and cases have been reported of eleven, and even twelve months; but these are, of course, very exceptional, and about which some doubt might be entertained. On the contrary, there are many well-authenticated cases of children born seven months after conception. These varying cases have been the cause of much domestic trouble and even of divorces. The question of the extreme limit has always been an important one, interesting not only the parties concerned and the medical man, but bearing also much legal significance.

A HEALTHY MOTHER AND CHILD.

Where to Commence to Count.—It is customary among some women to count from the middle of the month after the appearance of the last menstruation; it is the most usual mode with all, in fact, but taking into consideration the process of ovulation, the time during which the egg ripens and leaves the ovary, it would appear that the period most liable to conception, and therefore the safest to count from, is that closely following or preceding menstruation. It is at those times that the germ from the male is most apt to meet with and impregnate the female egg.

If a woman passes over the ninth month, she will probably go on to the tenth month before delivery takes place.

Healthfulness of Maternity.—Thin women become plump during pregnancy; symptoms of poor health often disappear at this time from the lives of many women. Nature seems to gather all her forces to ward off disease, and to guard both mother and child through the great process. *Nothing can be more conducive to the good health of women than occasional child-bearing.* If the reader does not believe this, let him (or her) take a little time to run over in mind the matrons on the one hand, and the spinsters and non-child-bearing wives on the other, and compare the two classes as to health and vigor.

No woman of sense enough to follow the instructions of a proper treatise on child-bearing, should make a bugaboo of any of the various stages of maternity, when all the testimony is so overwhelmingly in favor of its healthfulness.

Premature Births.—The earliest period that a child can be brought into the world and live is not fully determined. It is a common opinion that a child can not live if born before seven months. But it is well known that sixth-month's children *and less,* have lived, grown to maturity, and enjoyed good health.

The cases where a child lives when born under seven months are exceedingly rare; but after that age has been reached the chances are, under proper care, much in favor of the child, if well developed.

Miscarriage.—Miscarriage is most frequent in the earlier months of gestation. Women who have had miscarriage once, are liable to experience the same again at about the same time of pregnancy.

Dangers to Mother.—Wives are too much in the habit of making light of miscarriages. They are much more frequently followed by disease of the womb than are confinements at full term. There is a greater amount of injury done to the parts than in natural labor. Menstruation soon returns; conception may quickly follow. Unhappily, there is no custom requiring husband and wife to sleep apart for a month after a miscarriage, as there is after a confinement. Hence, especially if there be any pre-existing uterine disease, or a predisposition thereto, miscarriage is a serious thing.

Causes of Miscarriage.—The irritation of hemorrhoids or straining at stool will sometimes provoke an early expulsion of a child. Excessive intercourse by the newly married is a very frequent cause. Bathing in the ocean has been known to produce it. Nursing is exceedingly apt to do so. It has been shown by a distinguished medical writer, that, in a given number of instances, miscarriage occurred in seventeen per cent. of cases in which the woman conceived while nursing, and in only ten per cent. where conception occurs at some other time. A wife, therefore, who suspects herself to be pregnant, should wean her child.

Over-exertion, over-excitement, a fall, a blow, any violent emotion, such as anger, sudden and excessive joy, or fright; running, dancing, horseback riding; riding over rough roads, great fatigue, lifting heavy weights, purgative medicines, displacement of the womb, general ill-health, are all well-known causes of miscarriage, in addition to those before mentioned.

Prevention.—The way to prevent miscarriage is to lead a quiet life, particularly during those days of each successive month when, under other circumstances, the woman would menstruate; and to abstain during those days not only from long walks and parties, but also from sexual intercourse.

It is especially desirable to avoid a miscarriage in the first pregnancy, for fear that the habit of miscarrying shall then be set up, which it will be very difficult to eradicate. Therefore newly-married women should carefully avoid all causes which are known to induce the premature expulsion of the child. If it should take place in spite of all precautions, extraordinary care should be exercised in the subsequent pregnancy, to prevent its recurrence.

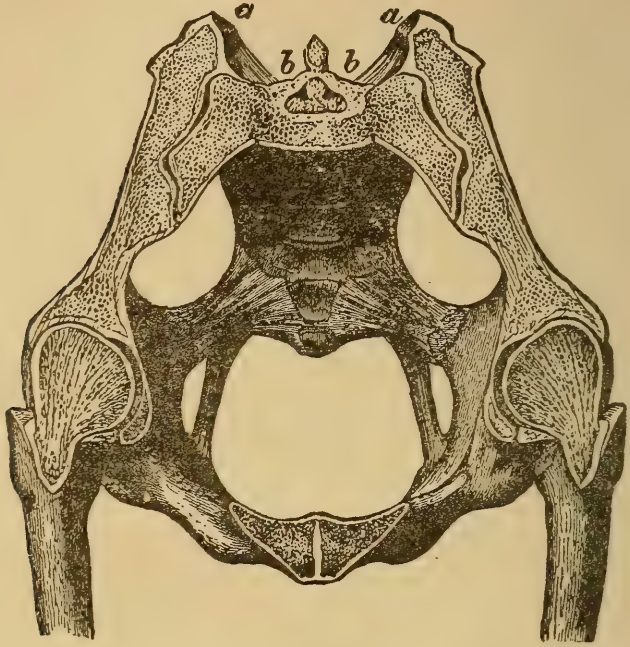
Interdict sexual intercourse until after the fifth month; for if the pregnancy pass beyond this period, the chances of miscarriage will be much diminished.

If the *symptoms of miscarriage,* which may be expressed in the two words *pain* and *flooding,* should make their appearance, the doctor ought at once to be sent for, the wife awaiting his arrival in a recumbent position. He may even then be able to avert the impending danger. At any rate, his services are as necessary, and often even more so, as in a labor at full term.

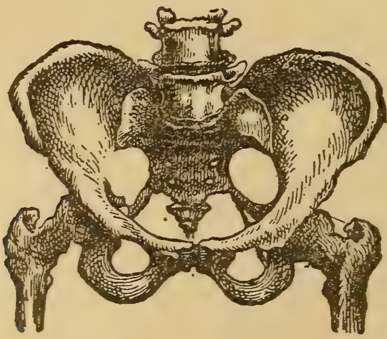
SECTION TWO—PAINLESS PREGNANCY AND CHILD-BIRTH

General Rules.—Some excellent popular volumes have been largely devoted to directions how to secure a comfortable period of pregnancy and painless delivery.

With a little common sense on the part of the woman, all may be summed up under the simple heads of: 1. An unconfined and lightly burdened waist. 2. Moderate but persistent outdoor exercise, of which walking is the best form. 3. A plain, unstimulating, chiefly fruit and vegetable diet. 4. Little or no intercourse during the time.



"The House We Live In" for nine months: showing the ample room provided by Nature when uncontracted by inherited inferiority of form or artificial dressing.

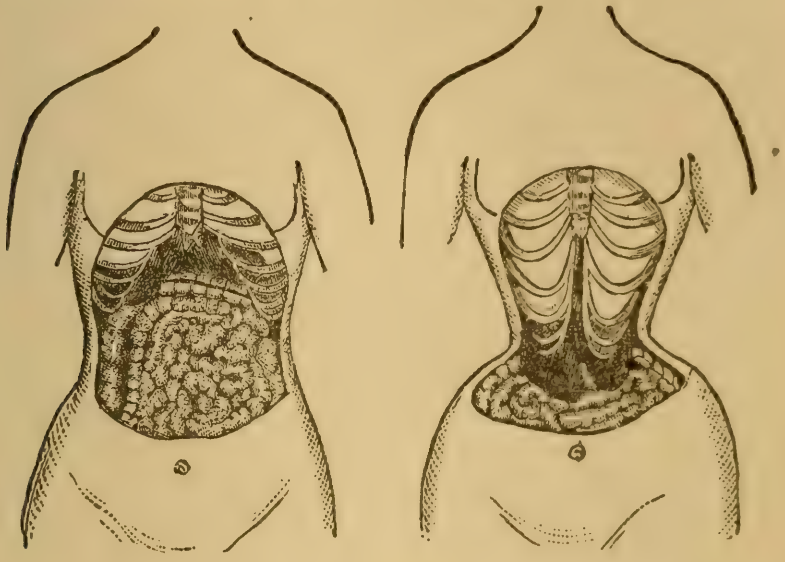


A Contracted Pelvis. Deformity and Insufficient Space.

These are hygienic rules of benefit under any ordinary conditions; yet they are violated by almost every pregnant lady. If hygienic rules are followed, biliousness, indigestion, constipation, swollen limbs, morning sickness and nausea, all will absent themselves or be much lessened.

The above is a statement in a "nut-shell" of the whole matter of painless child-birth labor; but for emphasis we add some definite information.

Tight Lacing of Mothers.—No tongue can tell, no finite mind can conceive, the misery tight lacing has produced, nor the number of deaths, directly or indirectly, of young women, bearing mothers and weakly infants it has occasioned.



A.

The ribs of large curve; the lungs large and roomy; the liver, stomach and bowels in their normal position; all with abundant room.

B.

The ribs bent almost to angles; the lungs contracted; the liver, stomach and intestines forced down into the pelvis, crowding the womb seriously.

Nature versus Corsets, Illustrated.

If the murderous practice continues another generation, it will bury all the middle and upper classes of women and children and leave propagation to the coarse-grained, but healthy, lower classes.

Clothing.—The weight of the skirts should rest entirely on the shoulders by means of straps. No weight or tightness should be permitted on the hips or around the waist.

The amount of clothing should be suited to the season, but rather increased than diminished, owing to the great susceptibility of the system to the vicissitudes of the weather. It is especially important that flannel drawers should be worn during advanced pregnancy, as the loose dress favors the admission of cold air to the unprotected parts of the body.

Care of Lower Limbs.—Pressure upon the lower limbs, in the neighborhood of the knee or the ankle joint, should be avoided, more particularly towards the last months. It is apt to produce enlargement and knotting of the veins, swelling and ulcers of the legs, by which many women are crippled during their pregnancies, and sometimes through life. Therefore the garters should not be tightly drawn, and gaiters should not be too closely fitted, while yet they should firmly support the ankle.

Exercise.—Moderate exercise in the open air is proper and conducive to health during the whole period of pregnancy. It should never be so active nor so prolonged as to induce fatigue. Walking is the best form of exercise. Riding in a badly constructed carriage, or over a rough road, or upon horseback, as well as running, dancing, and the lifting or carrying of heavy weights, should be scrupulously avoided, as liable to cause rupture, severe flooding and miscarriage. Journeys are not to be taken. Exercise and fresh air are of the greatest importance to mother and child. The mother should not force herself to go to a certain place nor to walk during a certain time in a day. As soon as fatigue is felt, stop walking.

A tendency to indolence must be overcome. A gentle activity is better and beneficial.

Toward the end of pregnancy the wife should economize her forces. She should not remain long standing or kneeling, nor sing in either of these postures.

Bathing.—Those who have not been accustomed to bathing should not begin the practice during pregnancy, and in any case great care should be exercised during the latter months. It is better to preserve cleanliness by sponging with tepid water than by entire baths. Foot-baths are always dangerous. Sea-bathing sometimes causes miscarriage, but sea air and the sponging of the body with salt water are beneficial. The shower-bath is of course too great a shock to the system, and a very warm bath is too relaxing. In some women of a nervous temperament, a lukewarm bath taken occasionally at night during pregnancy has a calming influence. This is especially the case in the first and last month. But women of a lymphatic temperament and of a relaxed habit of body are always injured by the bath.

Ventilation.—Attention should also be directed to keeping the atmosphere in the sitting and sleeping rooms of the house fresh. This can only be accomplished by constantly changing it. The doors and windows of every room, while unoccupied, should be kept thrown open in the summer-time, and opened sufficiently often in the winter to wash out the apartments several times a day with fresh air. The extremes of heat and cold are to be, with equal care, avoided. The house should be kept light. Young plants will not grow well in the dark. Neither will the young child nor its mother flourish without sunlight. The ancients were so well aware of this, that they constructed on the top of each house a solarium, or solar air-bath, where they basked daily, in thin attire, in the direct rays of the sun.

Sleep.—During pregnancy a large amount of sleep is required. It has a sedative influence upon the disturbed nervous system of the mother. It favors, by the calmness of all the functions which attends it, the growth of the fetus. Neither the pursuit of pleasure in the evening, nor the observance of any trite maxims in regard to early rising in the morning, should be allowed to curtail the hours devoted to sleep. At least eight hours out of the twenty-four can well be spent in bed.

The Mind.—A tranquil mind is of the first importance to the pregnant woman. Gloomy forebodings should not be encouraged. Pregnancy and labor are not, we repeat, diseased conditions. They are healthful processes, and should be looked upon as such by every woman. Bad labors are very infrequent. It is as foolish to dread them as it is for the railway traveler to give way to misgivings in regard to his safety. Instead of desponding, science bids the woman to look forward with cheerfulness and hope to the joys of maternity.

Food.—The nourishment taken during pregnancy should be abundant, but not, in the early months, larger in quantity than usual. Excess in eating or drinking ought to be most carefully avoided. The food is to be taken at shorter intervals than is common, and it should be plain, simple and nutritious. Fatty articles, the coarser vegetables, highly salted and sweet food, if found to disagree, as is often the case, should be abstained from. The flesh of young animals—as lamb, veal, chicken and fresh fish—is wholesome, and generally agrees with the stomach. Ripe fruits are beneficial. The diet should be varied as much as possible from day to day. The craving which some women have in the night or early morning may be relieved by a biscuit, a little milk, or a cup of coffee. When taken a few hours before rising, this will generally be retained, and prove very grateful, even though the morning sickness be troublesome. Any food or medicine that will confine or derange the bowels is to be forbidden. The taste is, as a rule, a safe guide, and it may be reasonably indulged. But inordinate, capricious desires for improper, noxious articles should, of course, be opposed.

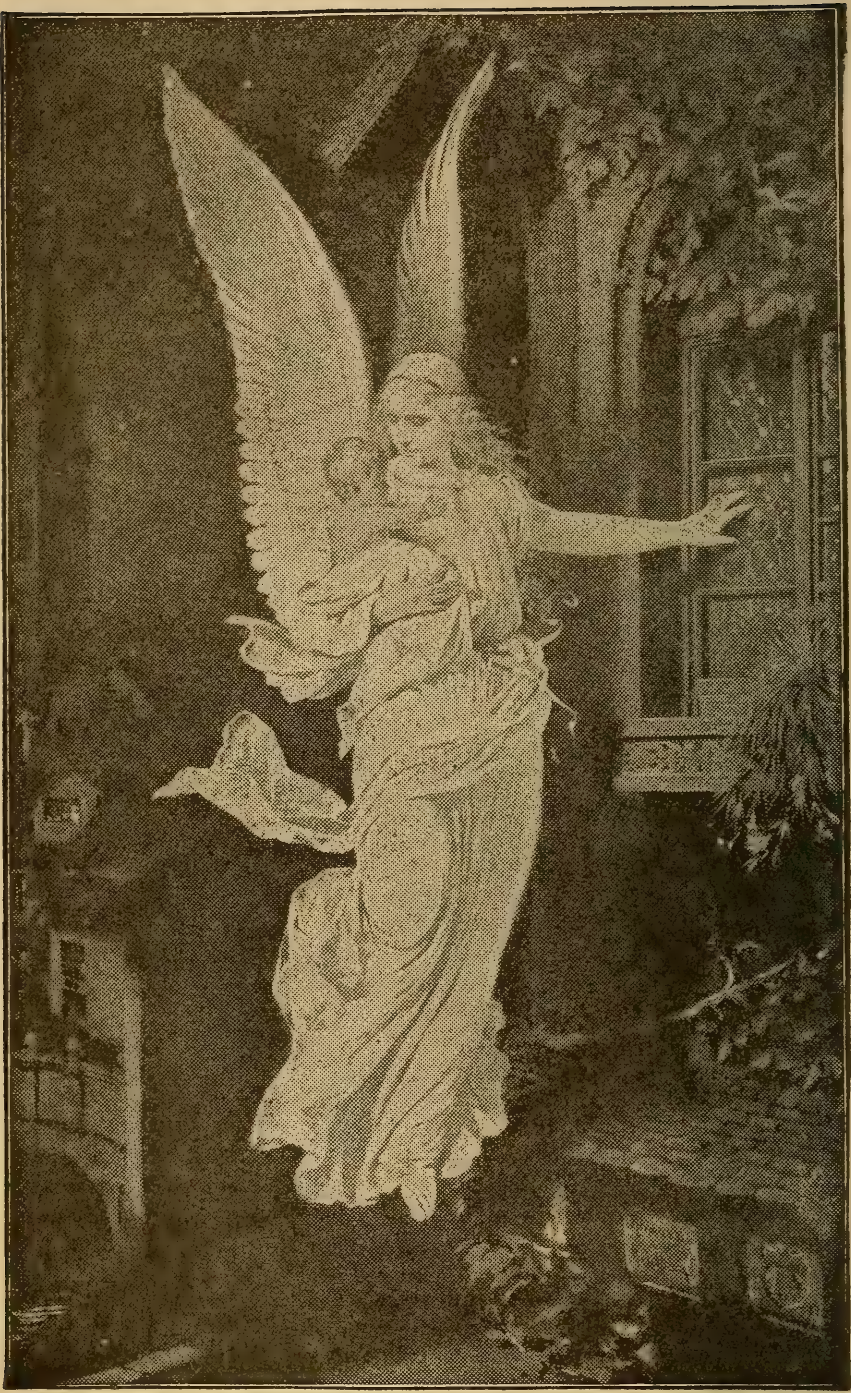
A Few Don'ts for Pregnant Women.—1. Don't permit yourself to become constipated—no, not for one day

2. Don't permit youself to become bilious. Use all your hygienic knowledge to keep yourself from becoming so.

3. Don't force your appetite. Let hunger demand the food.

4. Don't be too sedentary in your habits. Take sufficient gentle exercise.

5. Don't overwork or do heavy lifting and the like.



COMING TO EARTHLY HOME.

6. Don't overtax the brain or the nervous system. Live a quiet life.
7. Don't in any way confine the temporary home of the little one resting under your heart.
8. Don't eat indigestible or constipating foods.

Use of Anæsthetics.—Is it possible to avoid the throes of labor, and have children without suffering? Yes. Medical art brings the waters of Lethe to the bedside of woman in her hour of trial.

Anæsthetics are now used successfully here as in surgery and other painful cases. Their administration is never pushed so as to produce complete unconsciousness, unless some operation is necessary, but merely so as to diminish sensibility and render the pains endurable. These agents are thus given without injury to the child, and without retarding the labor or exposing the mother to any danger. When properly employed, they induce refreshing sleep, revive the drooping nervous system, and expedite the delivery.

They should never be used in the absence of the doctor. He alone is competent to give them with safety. In natural, easy and short labor, where the pains are readily borne, they are not required. But in those lingering cases in which the suffering is extreme, and, above all, in those instances where instruments have to be employed, ether and chloroform have a value beyond all price.

SECTION THREE—CONFINEMENT

Where Did the Baby Come From?

Where did you come from, baby dear?
Out of the everywhere into here.

Where did you get the eyes so blue?
Out of the sky, as I came through.

Where did you get that little tear?
I found it waiting when I got here.

What makes your forehead so smooth and high?
A soft hand stroked it as I went by.

What makes your cheek like a warm white rose?
I saw something better than any knows.

Whence that three-cornered smile of bliss?
Three angels gave me at once a kiss.

Where did you get this pretty ear?
God spoke, and it came out to hear.

Where did you get those arms and hands?
Love made itself into hooks and bands.

Feet, whence did you come, you darling things?
From the same box as the cherub's wings.

How did they all come just to be you?
God thought of *me*, and so I grew.

But, how did you come to us, you dear?
God thought about *you*, and so I am here.
—*George Macdonald.*

Preparation for the Confinement.—Before a lady is confined, before labor really commences, everything pertaining to the proper arrangement of the lying-in room, everything necessay to the safe and successful conduct of the labor, and everything essential to the comfort and welfare of both mother and child, should be in complete and perfect readiness. Let no patient be dilatory in these matters. Nothing, however seemingly unimportant it may be, should be put off to the last moment. The nurse should be engaged six or eight weeks beforehand, and should be a person of good reputation for skill, cleanliness and quiet. Some nurses are slovenly and given to constant gossip and chatter. The physician should also be spoken to. It will be well if the advice of a lady friend of experience in the cares of maternity can be had regarding some of the details of preparation.

Necessary Articles.—The arrangement of the bed and bedclothing, the dress of the patient, and the many small but necessary articles that should be on hand and ready for immediate use, must all receive their due share of attention. Among other things that the patient may deem necessary, there should be provided a skein of strong thread, a good pair of scissors, some pure lard or sweet oil; all things, in fact, necessary to the mother or babe, should be placed in such order that they can be found without bustle or confusion the moment they are wanted.

The clothing should be perfectly loose, and sufficiently warm to permit the patient to get out of bed if necessary to do so. The following very suitable garments have been recommended: A clean and comfortable night-gown should be put on, and, that it may not become soiled, rolled carefully and smoothly up about the waist when the lady lies down; over this, a short bed-gown reaching to the hips; to meet this a flannel, or, better, a plaited cotton petticoat, is next put on; and over the whole may be worn a dressing gown until taken to the bed.

Dressings for the Bed.—There are certain articles of clothing and dressings for the bed which should be cared for in advance, that they may be ready when required.

It is of consequence to procure a proper bandage. It should be made of heavy muslin, neither too coarse nor too fine; an ordinarily good quality of unbleached muslin is the best. The material is to be cut bias, about one and a quarter yards long.

The Bed.—In the preparation of the bed, a rubber, oil or waterproof cloth is necessary. The bed should be made as usual, except that a sheet folded several times ought to be placed beneath the lower sheet. On the top of the lower sheet should be placed the rubber or oil cloth, and on top of this again another folded sheet. By this arrangement the necessity of making up the bed after the birth of the child is obviated, as the soiled clothes can all be removed without disturbing the bed and mother.

A bed used for this purpose should always have a good, firm, smooth mattress, *not feathers.*

Other Preparations.—As soon as it is evident that labor has begun, warm water should be in readiness.

The lying-in chamber should be kept comfortable, quiet and well ventilated.

Persons Present.—No more people should be allowed in the room than the nature of the case absolutely requires.

Should the husband be present? Yes, if the wife says so; she, in all probability, wants and needs his sympathy and encouragement.

The only other necessary attendants are the doctor and the nurse. Possibly some close, intimate lady friend might be helpful with her sympathy and encouragement. But we insist that all present be cool-headed; it is no place for nervous people.

Position Chosen.—The position chosen during delivery may be on the back, though some women prefer to lie on their side, with a pillow between the knees; some would rather stand; while others desire to place themselves on their knees during a part of the time. On the left side is undoubtedly the most convenient, though it may be changed frequently with advantage under different circumstances.

Food During Labor.—Solid food should be avoided, and nothing in shape of nourishment taken but a little milk, broth or soup. Even these are not desired, usually, unless the labor is protracted and the system weakened.

Spirituous or malt liquors, and stimulating drinks of any kind, are best let alone at this time, from the danger of their producing congestion or inflammation. A little wine may sometimes be needed in cases of great exhaustion, but if stimulants are required during labor, great caution and discrimination must be exercised in their administration.

Simple cold water is as refreshing as need be, but if lemonade, tea, toast or barley water are preferred, they may be given without fear of evil consequences. A very good beverage during labor is a cup of warm tea; this will be found grateful and refreshing.

As for solid food, it is not only improper at this time, but the patient will usually have no appetite for it, and the stomach will refuse it.

Avoid Constipation.—To see that there is now no constipation, no accumulation within the rectum, is a matter of such consequence to the patient that it should under no circumstances be neglected. A free evacuation of the bowels will, by giving the neighboring parts more room, very much expedite the progress of labor and abridge the pain.

When the first premonitory symptoms of the approaching labor are noticed, a little castor oil, one or two teaspoonfuls, according to the quantity required, may at once be taken if the bowels have been at all costive. If the patient object to oil, an injection should be prescribed instead. A pint of warm water thrown into the rectum will soon have the desired effect. The bladder, which, when distended, encroaches upon and crowds the adjoining parts, should be often emptied during the progress of labor; by so doing the patient will have more ease and comfort, and her case will be much expedited.

Articles for the Little Stranger.—A package of large pins, one and a half inches in length, for the bandage of the mother, and smaller ones for that of the child; some good linen bobbin for the doctor to tie the naval-string; good toilet soap and fine surgical sponge for washing the child; a piece of linen or muslin for dressing the naval; a box of unirritating powder, and a pile of towels—should all be had and laid aside many weeks before they are wanted.

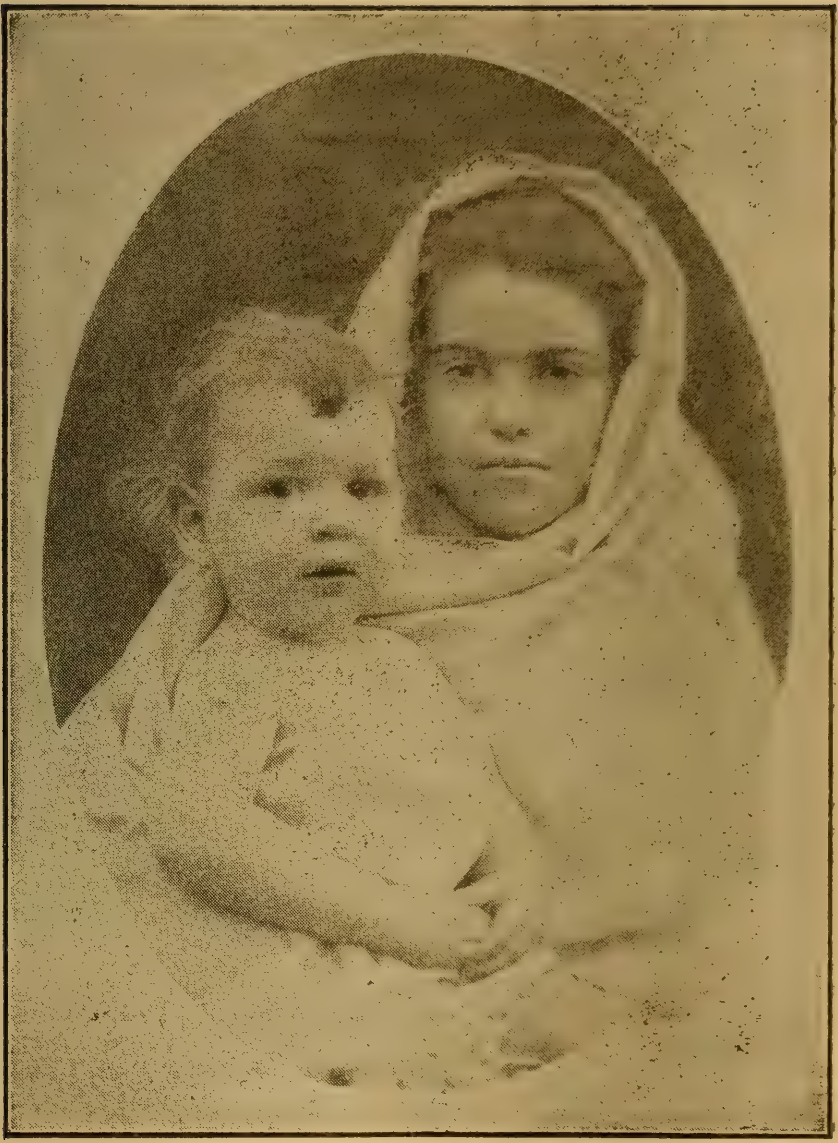
These together with the materials for dressing the bed, the child's clothing, and the mother's bandage, ought to be placed together in a basket got for the purpose, in order that they may all be easily and certainly found at the time when perhaps the hurry and excitement of the moment would render it difficult otherwise to collect them all immediately.

Signs of Approaching Labor.—One of the earliest of the preliminary signs of the coming on of confinement occurs about two weeks before that event. It is a dropping or subsidence of the womb. The summit of that organ then descends, in most cases, from above to below the umbilicus, and the abdomen becomes smaller. The stomach and lungs are relieved from pressure, the woman breathes more freely, the sense of oppression which troubled her before is lost, and she says she feels comfortable. This feeling of lightness increases, and a few days before the labor she feels so much better that she thinks she will take an extra amount of exercise.

A second sign of labor is found in the increased fullness of the external parts, and more mucous secretions. This symptom is a good one.

Symptoms of Actual Labor.—The first symptom of actual labor is generally the discharge of the plug of mucus which has occupied the neck of the womb up to this time; this is usually accompanied by a little blood.

Perhaps before this, or it may be some hours after, the *pains* will develop themselves. These recur periodically, at intervals



MOTHER AND CHILD.

of an hour or half an hour at the outset, and are "grinding" in character. True labor pains are distinguished from false by the fact that they are felt in the back, passing on to the thighs, while false pains are referred to the abdomen; by their intermittent character, and by the steady increase in their frequency and severity. In case of doubt as to their exact nature, the doctor should be summoned, who will be able to determine positively whether or not labor has begun.

Cause of Labor Pains.—The contractions of the womb cause the *pains.* This organ is assisted by the abdominal muscles and the diaphragm. It is the effort of nature to expel the child.

Labor Pains.—Up to this time the pains have been of a "grinding" character, and the intervals have been long, usually from a half hour to two hours; but soon—the length of time is uncertain—they alter, and become "bearing down;" they are now more frequent and regular, and the skin becomes hotter and bathed in perspiration.

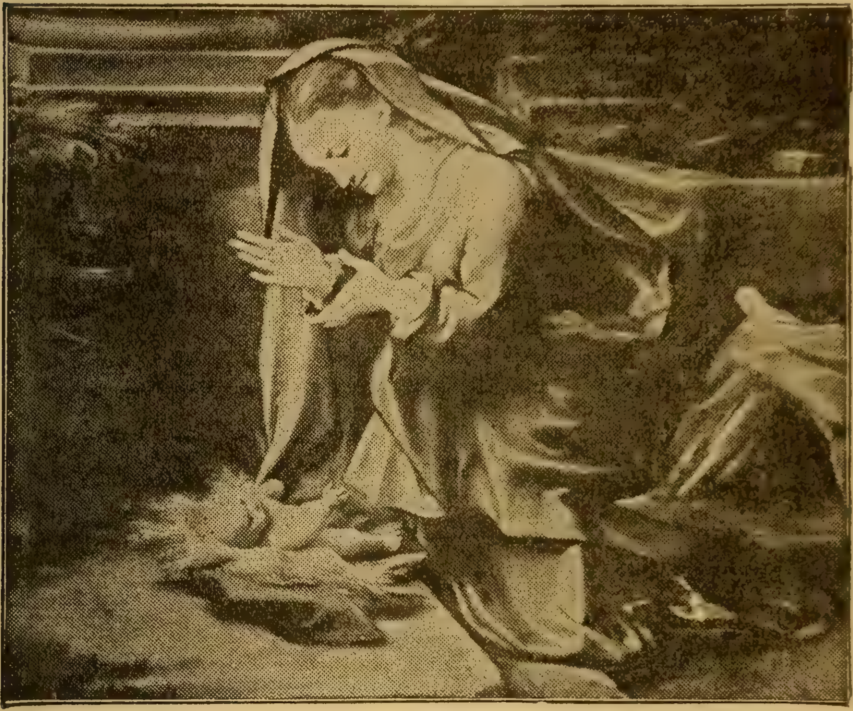
True labor pains intermit with periods of almost perfect ease; they are also situated in the womb or adjacent parts, especially in the back and loins. They come on at regular intervals, rise gradually to a certain pitch of intensity, and then gradually subside. They are not sharp and abrupt; but are deep, dull and heavy. When they assume the "bearing down" character, the physician's presence becomes very necessary; if the "waters break" before this he should have been summoned at once, even if there were no true pains, as it is essential that he know the exact "presentation" of the child, and whether the umbilical cord or either of the child's arms has descended.

Three Stages of Labor Pains.—A natural labor is usually divided into three stages, and in order that it may be better understood, we will explain that the *premonitory* or *first stage* comprises the *subsidence* (dropping) *of the womb* and the coming away of the blood-tinged mucus from the vagina, sometimes called the "show." This is in reality the discharge from the mouth of the womb of the plug, which has up to this time hermetically sealed that organ during gestation. The *second stage* is known by the "grinding" nature of the pains. The mouth of the womb at this time gradually dilates, and the pains become more frequent; at about this juncture, usually, the "bag of waters" breaks, or the *liquor amnii* (liquid contents of the *amnion,* in which the child has been immersed) escapes. As the pains alter in character to true labor pains, and become "bearing down," the *third stage* is indicated, in which nature is making her best efforts to expel the child.

"Bearing Down."—The mother must not strain or bear down either in the first or second stage, for the womb is not then in a condition to expel its contents; any efforts on her part will avail nothing at this time, and will exhaust her strength, which she may greatly need further on. Thus assisting the birth of the child should not be attempted until the last stage, when the bearing-down pains will indicate to her the time that a little aid on her part may be of service.

Remember, also, that it does no good to attempt aid between intervals of pain. Help nature when it works; rest when nature rests. Do not attempt to help nature too much. There is some danger of rupture. The doctor ought to know how much help *he* should give.

Nature and Art.—Some contend that nature should be left quite alone, as she is perfectly able to bring a child into the world without human assistance. While we have no use for an over-meddlesome attendant, and believe that too much interference is harmful, there are few even natural labors in which a good physician may not render most important service to both mother and child. A physician who merely presents himself at the bedside when the child is born, and barely waits for the expulsion of the after-birth to take his departure, will hardly be called upon again to officiate in a like capacity in the same family.



THE FIRST-BORN.

It is true that in most cases of natural labor not much assistance is needed; but, in case there should be, the doctor ought by all means to be there to render it. His judgment alone must be depended upon as to the amount of aid required; and whatever interference there should be in the progress of the case must be suggested by his judgment alone, and by the knowledge he possesses of the matter in hand.

At Birth.—As soon as the head is born, it should be *immediately* ascertained whether the neck is encircled by the cord. If so, it should be removed or loosened.

The neglect of this precaution may result fatally to the infant.

It is also of importance at once to allow the entrance of air to the face, to put the finger in the mouth to remove any obstruction which may interfere with inspiration; also lay the babe on its right side, with the head removed from the discharges.

The Navel Cord should not be tied until the infant is heard to cry or begins to breathe.

The ligature is to be applied in the following manner: Tie the cord in two places, first ascertaining that a loop of the child's intestines does not protrude into the cord, as great harm may be done. The first place tied should be about two inches from the navel; the second, four inches from the navel of the child. Midway between these two ligatures cut the cord. Do this with great care. The thread should be strong, and wrapped several times around the cord rather tightly, and tied in a good hard knot.

The cord must not be tied and cut until the artery in it ceases to pulsate. But it will, however, cease to pulsate soon after the child begins to breathe.

SECTION FOUR—MOTHER AND CHILD

Attention to the Child.—When the child is separated from the mother, a warm blanket or piece of flannel should be ready to receive it. In taking hold of the little stranger it may slip out of the hands and be injured. To guard against this accident, which is very apt to occur with awkward or inexperienced persons, always seize the back portion of the neck in the space bounded by the thumb and first finger of one hand, and grasp the thighs with the other. In this way it may be safely carried. It should be transferred, wrapped up in its blanket, to some *secure* place, and never put in an arm-chair, where it may be crushed by some one who does not observe that the chair is already occupied. The head of the child should not be so covered as to incur any danger of suffocation.

Attention to the Mother.—When the after-birth has come away, the mother should be drawn up a short distance—six or eight inches—in bed, and the sheet which has been pinned around her, together with the temporary dressing of the bed, removed, a clean folded sheet being introduced under the hips. The parts should be gently washed with warm water and a soft sponge or a cloth.

The anointing of the external and internal parts with goose-grease is soothing and efficient in speedily allaying all irritation. This ought all to be done under cover, to guard against the taking of cold. The chemise pinned up around the breast should now be loosened, and the woman is ready for the application of the bandage, which is to be put on next to the skin. This will prove very grateful to the mother.

In order to apply the bandage, one-half of its length should be folded up into plaits, and the mother should lie on her left side; lay the plaited end of the bandage underneath the left side of the patient, carrying it as far under as possible, and draw the loose end over the abdomen; then let the mother roll over on her back upon the bandage, and draw out the plaited end. The bandage should be first tightened in the middle by a pin. Pins should be placed at intervals of about one inch. The lower portion of the bandage should be made quite tight, to prevent it from slipping up.

A THRIVING LITTLE FELLOW.

The mother is now ready to be drawn upon the permanent dressing of the bed. This should be done without any exertion on her part. A napkin should be laid smoothly *under* the hips —never folded up—to receive the discharges.

The Doctor's Presence.—If the doctor be present, some of the minute instructions herein given are unnecessary, as it is *his* place to see to many of the things mentioned, as the care and cutting of the navel cord and the like. But the prospective mother, the nurse and other attendants should make a thorough study of all the particulars in order to be ready for any and all emergencies The doctor is not always present just at the time when needed.

Bathing the Child.—The child may now be washed and dressed. Before beginning, everything that is wanted should be close at hand, namely, a basin of warm water, a large quantity of lard or some other oily material, soap of the finest quality, a fine sponge and a basket containing the binder, shirt and other articles of clothing.

What to Do.—First rub the child's body thoroughly with lard. The covering can only be removed in this way; the use of soap alone will have no effect unless the friction be so great as to take off also the skin. The nurse should take a handful of lard and rub it in with the palm of the hand, particularly in the flexures of the joints. In anointing one part, the others should be covered, to prevent the child from taking cold.

If the child is thus made perfectly clean, do not use any soap and water, because the skin is left in a more healthful condition by the lard, and there is risk of the child's taking cold from the evaporation of the water. But the face may be washed with soap and water, great care being taken not to let the soap get into the child's eyes, which is one of the most frequent causes of sore eyes in infants.

Dressing the Navel.—The navel-string is now to be dressed. This is done by wrapping it up in a circular piece of soft muslin, well oiled, with a hole in its center. The bandage is next to be applied. The object of its use is to protect the child's abdomen against cold, and to keep the dressing of the cord in its position. It should be pinned in front, three pins being generally sufficient. The rest of the clothing before enumerated is then put on.

Nursing.—*The child is now to be applied to the breast at once.* This is to be done, for three reasons. First, it very often prevents flooding, which is apt otherwise to occur. Secondly, it tends to prevent milk fever, by averting the violent rush of the milk on the third day, and the consequent engorgement of the breast and constitutional disturbance. The third reason is, that there is always a secretion in the breast from the first, which it is desirable for the child to have; for it acts as a cathartic, stimulating the liver, and cleansing the bowels from the secretions which fill them at the time of birth.

Manipulating the Breast.—There is generally sufficient nourishment in the breasts for the child for the first few days. The mother may lie on the one side or the other, and receive the child upon the arm of that upon which she is lying. If the nipple be not perfectly drawn out so that the child can grasp it in its mouth, the difficulty may be overcome by filling a porter-bottle with hot water, emptying it, and then placing the mouth of the bottle immediately over the nipple. This will cause, as the bottle cools, a sufficient amount of suction to elevate the sunken nipple. The bottle should then be removed and the child substituted—a little sugar and water or sweetened milk being applied, if necessary, to tempt the child to take the breast.

Diet of the New Mother.—It is necessary to exercise peculiar care as regards the diet at this period. Bread and milk, bread and butter, arrowroot and milk, dry toast and milk, milk toast, gruel, light puddings, roasted apples, broths, beef tea, tea and lemonade, should constitute the chief articles of diet. But little solid food, and nothing stimulating, ought to be taken, at least for a few days. The diet can be gradually improved, so that at the end of about the fourth day the usual diet may be returned to, providing it is plain, wholesome and nourishing. Of course it is folly to attempt the restriction of all cases to one class of food, as many women are in a prime condition, barring a little weakness, after their confinement; while others, after a hard and lingering labor, are exceedingly weak. Common sense should be the guide in these cases, the same as in all others, and if a lady is very weak she should have chicken broth, good strong beef tea, mutton chops, game, eggs, etc., from the very commencement.

No Stimulating Drinks.—The doctor should certainly be consulted when there is unusual weakness, and debility; and only on his advice should stimulating drinks be given in these particular cases. The best beverages for the first week, in the majority of cases, are milk, barley water, toast and water, gum arabic water, and, in some instances, cool lemonade.

The After-Pains.—The "after-pains" of labor, those which come on after the placenta has been expelled, are due to the efforts of the womb to discharge the remaining coagulated blood. Most women experience them, and they are very much like the true labor pains. They are generally felt but a few hours after labor, though sometimes much longer; but as a rule they are seldom, if ever, experienced in first labors. They may be mitigated, though not prevented, either by the application of a hot poultice over the abdomen or cloths wrung out of hot water and applied in the same manner. An injection into the rectum or vagina of thin starch, to which has been added about twenty drops of laudanum, will frequently give great relief. Gum camphor taken in capsules, in doses of two or three grains, and repeated every two or three hours, will be found of value.

How to Check Flooding.—*Flooding*, or uterine hemorrhage, which may come on during pregnancy or labor, *requires the services of a physician;* but to those who may be placed in an emergency, when the doctor is not at hand, a few simple directions may be of value. The flooding of labor is always troublesome and demands instant attention, as it is sometimes fatal, unless quickly checked.

The chief causes are laceration of the womb, a rupture of one or more of its blood-vessels, or a too early or violent separation of the after-birth. In many cases it is preceded by a sensation of heat and weight in the pelvis, pains in the back and thighs, headache, dizziness and flushed face. In some instances, however, flooding comes on suddenly and without any warning whatever.

Among the Chief Remedies to be relied upon there are two which are always within reach and easy to be applied; they are *pressure* and *cold.* The womb should be grasped and held by the hand on the outside of the abdomen. It can be felt, like a hard, round ball, when it is properly contracted; and when it is not thus felt there is always danger of hemorrhage; non-contraction of the womb is very liable to be followed by flooding. *By firmly grasping the middle of the abdomen, below the navel, at the same time pressing downward and backward,* the womb may be made to contract; and this is what is greatly to be desired. At the same time that the womb is compressed, cold should be vigorously applied, which also aids in the contraction.

A large napkin or towel may be dipped in ice water and dashed suddenly on the external parts, the thighs and lower part of the abdomen, until the womb contracts and the violence of the hemorrhage is controlled.

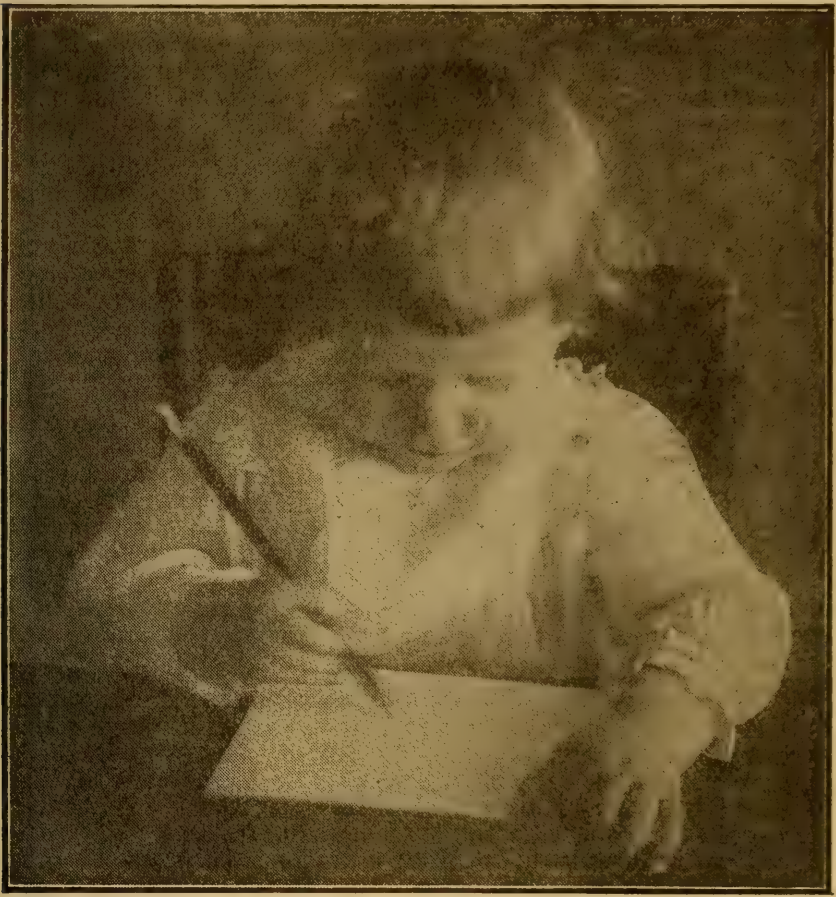
In addition to these measures, stimulants are sometimes administered; ergot is also usually of great value. Hot water, as hot as it can be borne, instead of cold water, is advised by some physicians to be injected into the vagina in large quantities. It is claimed for this remedy that it is entirely free from danger and very efficacious.

Restraint During Nursing.—During lactation (the period of secretion of milk and nursing the infant), few women experience much desire for marital congress, and it is therefore a season calling for great forbearance on the part of the man. Her vital forces seem to be concentrated in the direction of furnishing nourishment to her babe; nature usually suspends the processes of ovulation for the time and makes the wife sterile, which are plain indications that this is a condition intended by nature. It is quite certain that the less intercourse during this whole period, the better for both mother and child.

Advantages of Early Nursing.—As a rule, the baby should go to its mother's breast, if there is nothing special to prevent, as soon as she has secured a little repose from the fatigue and excitement of labor. Reluctance on the part of mothers to nurse their children is little short of criminal in its cruelty.

Bottle-fed infants have but a greatly diminished chance of life, compared with those nourished at the breast. It is also a vast deal less trouble to feed a baby at Nature's fount than to several times a day and night go through all the trouble of procuring and preparing artificial food of even the simplest kind.

Sore Nipples.—Inflammation of the breast before secretion of milk is rare; after, it is frequent. The slightest unusual fullness or knottiness discovered after the infant has been suckling should receive immediate attention.



WRITING TO PAPA.

Symptoms.—The first symptom is a hardness or knottiness in some part of the organ, which often enlarges before causing pain or uneasiness. Next, increasing pain is felt during suckling. The skin becomes red, tense and shiny, while more or less of the breast feels inelastic, firm, prominent and heavy. The pain becomes severe.

Treatment.—Great care should be given to the nipple. If it is imperfect, precautions should be taken to prevent the breast itself from becoming involved. If the infant can not draw off the milk, some other means will have to be used. If abrasions, ulcers, cracks or chaps are visible, some soothing preparation must be applied. The following lotion is excellent: Borax, one drachm; glycerine, one-half ounce; rose-water, seven and one-half ounces. Or, a jelly made of gum tragacanth, two to four drachms; lime-water, four ounces; rose-water, three ounces; glycerine, one ounce. If there is much secretion from the glands on the nipple, after washing it, a dry powder of starch, or of oxide of zinc, or carbonate of magnesia, will be useful.

Child-Bed Fever.—Child-bed fever, briefly described, is a severe and sudden inflammation, usually commencing in the womb, extending to all the adjacent organs of both the pelvic and abdominal cavities, and hastening with great rapidity, if unchecked, to a fatal termination. It usually makes its appearance from the second to the fifth day after delivery, though in rare instances it has been known to commence as early as a few hours, and in other cases as late as two or three weeks, after. When it occurs, at once send for the doctor.

Getting Up Too Soon.—A too early return to the ordinary active duties of life retards or checks restoration to normal size, and, the womb being heavier, exposes the woman to great danger of uterine displacements. Nor are these the only risks incurred by a too hasty renewal of active movements. The surface, the substance, and the lining membrane of the womb are all very liable, while this change from its increased to its ordinary bulk is occurring, to take on inflammation after slight exposure. The worst cases of uterine inflammation and ulceration are thus caused.

Be Cautious.—A "bad getting-up," prolonged debility, pain and excessive discharge are among the least penalties consequent upon imprudence after confinement. It is a mistake to suppose that hard-working women in the lower walks of life attend with impunity to their ordinary duties a few days after confinement. Those who suffer most from falling of the womb and other displacements are the poor, who are obliged to get up on the ninth day and remain upright, standing or walking for many hours with an over-weighted womb. If this be true of vigorous women accustomed to a hardy life, how much more apt to suffer from this cause are the delicately nurtured, whose systems are already, perhaps, deteriorated and little able to resist any deleterious influences!

A mother should remain in bed for at least two weeks after the birth of the child, and should not return to her household duties under a month; she should also take great pains to protect herself from cold, so as to escape the rheumatic affections to which at this time she is particularly subject.

Rules for Nursing.—The new-born child should be nursed about every second hour during the day, and not more than once or twice at night. Too much ardor may be displayed by the young mother in the performance of her duties. Not knowing the fact that an infant quite as frequenty cries from being overfed as from want of nourishment, she is apt to give it the breast at every cry, day and night. In this manner her health is broken down, and she is compelled perhaps to wean her child, which, with more prudence and knowledge, she might have continued to nurse without detriment to herself.

Nursing at Night.—It is particularly important that the child shall acquire the habit of not requiring the breast more than once or twice at night: This, with a little perseverance, can readily be accomplished, so that the hours for rest at night, so much needed by the mother, may not be interfered with. Indeed, if the mother does not enjoy good health, it is better for her not to nurse at all at night, but to have the child fed once or twice with a little cow's milk.

Influence of Pregnancy on the Milk.—Menstruation is ordinarily absent, and pregnancy therefore impossible, during the whole course of nursing, at least during the first nine months. Sometimes, however, mothers become unwell at the expiration of the sixth or seventh month; in rare instances, within the first five or six weeks after confinement. When the monthly sickness makes its appearance without any constitutional or local disturbance, it is not apt to interfere with the welfare of the infant. When, on the contrary, the discharge is profuse, and attended with much pain, it may produce colic, vomiting and diarrhœa in the nursling. The disturbance in the system of the child ordinarily resulting from pregnancy in the mother is such that, as a rule, it should be at once weaned so soon as it is certain that pregnancy exists. The only exceptions to this rule are those cases in the city, during the hot months, in which it is impossible either to procure a wet-nurse or to take the child to the country to be weaned. In cold weather an infant should certainly be weaned, if it has attained its fifth or sixth month, and the mother has become pregnant.

Influence of Emotions on the Milk.—It is well established, that mental emotions are capable of changing the quantity and quality of the milk, and of thus rendering it hurtful, and even dangerous, to the infant.

The secretion of milk may be entirely stopped by the action of the nervous system. Fear, excited on account of the child which is sick or exposed to accident, will check the flow of milk, which will not return until the little one is restored in safety to the mother's arms. Apprehension felt in regard to a drunken husband has been known to arrest the supply of this fluid.

On the other hand,the secretion is often augmented, as every mother knows, by the *sight* of the child, nay, even by the thought of him, causing a sudden rush of blood to the breast known to nurses as the *draught.* Indeed, a strong desire to furnish milk, together with the application of the child to the breast, has been effectual in bringing about its secretion in young girls, old women and even men.

Those passions which are generally sources of pleasure, and which when moderately indulged are conducive to health, will, when carried to excess, alter, and even entirely check, the secretion of milk.

Evil Effects of Excitement.—But the fact which it is most important to know is, that *nervous agitation may so alter the quality of the milk as to make it poisonous.* A fretful temper, fits of anger, grief, anxiety of mind, fear and sudden terror not only lessen the quantity of the milk, but render it thin and unhealthful, inducing disturbances of the child's bowels, diarrhœa, griping and fever. Many instances of death to the child are given, caused by nursing the child while the mother was in great excitement or fear.

CHAPTER XI

THE FAMILY

SECTION ONE—LIMITATION OF OFFSPRING

Object of Marriage.—The only natural object of marriage is to have and to rear a family of children. How many children is it our duty to have? The father feels his abilities to educate and provide for children is limited. The mother, who travails in sorrow, and on whom the immediate care of them devolves, looks often with more dread than pleasure to another addition to her flock. Her health may be giving way and her spirits flagging.

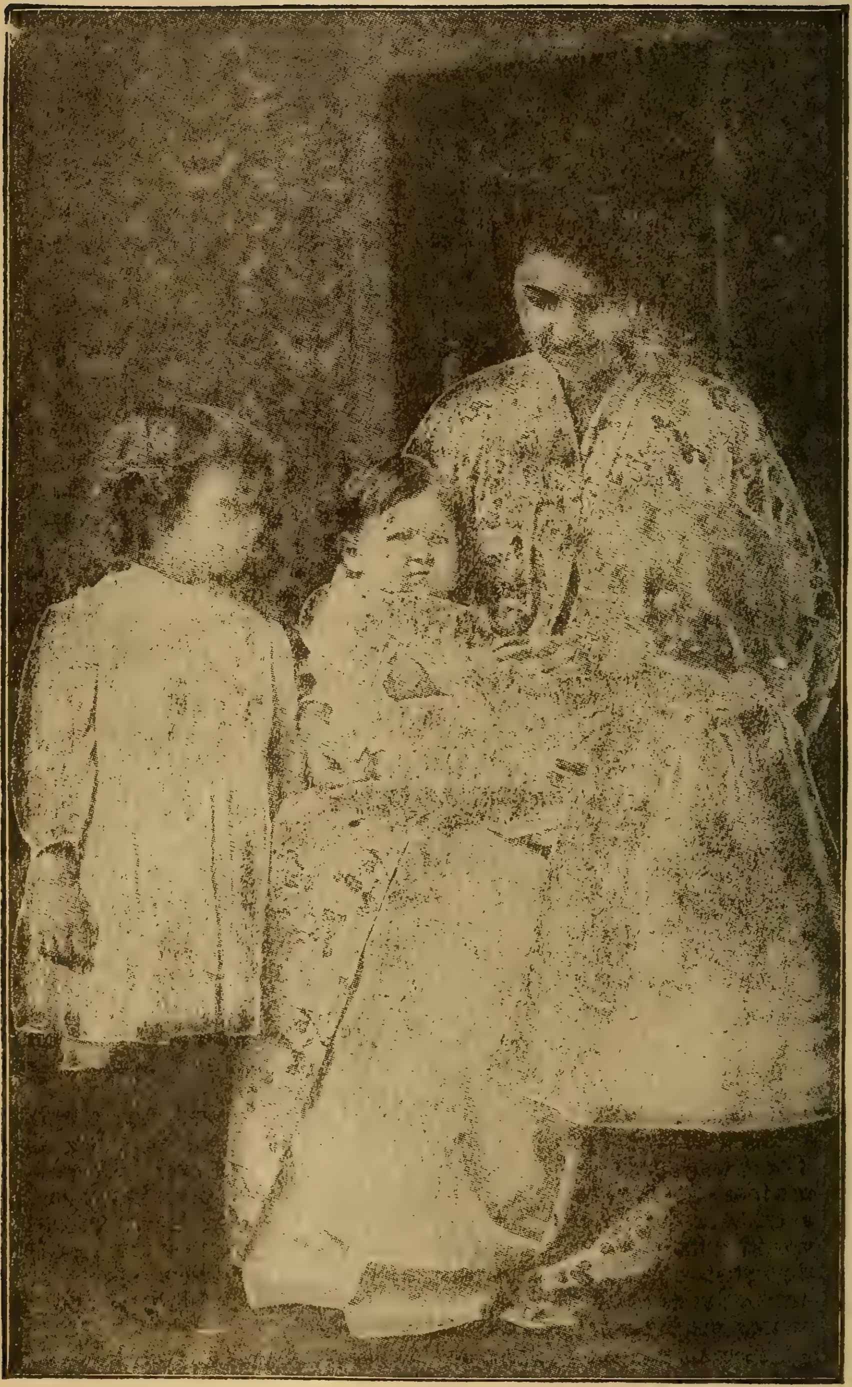
Is it possible and is it right to limit offspring? Nature has made provisions for the limitation of offspring; it also warns us of the danger of too rapid child-bearing by yielding feeble, imperfect and deformed children, and by wrecking the health of the mother.

Natural Safeguards.—The safeguard which nature has thrown out against over-production is by constituting certain periods of woman's life seasons of sterility. Before the age of nubility, during pregnancy and after the change of life they are always barren. During nursing most women are so, but not all. Some even continue their monthly change at this time. There is no absolute certainty that a woman will not conceive then, though the probability is against it.

A so-called *agenetic* or sterile period exists between each monthly change, during the continuance of which it is not possible for the female to conceive. This branch of our subject has attracted much attention of late years, from its practical character, but the conclusions reached have so far not been as satisfactory as we could wish.

Intercourse is more liable to be followed by pregnancy when it occurs about the menstrual epoch than at other times. The exact length of time, however, preceding and following the menses during which impregnation is still possible has been ascertained. The spermatic fluid, on the one hand, retains its vitality for an unknown period after coition, and the egg for an unknown period after its discharge. The precise extent of the limit of these occurrences is still uncertain, and is probably more or less variable in different individuals.

Those, therefore, who would take advantage of this natural law can do no better than confining themselves to a few days intervening about midway between the monthly epochs. It is



A HAPPY MOTHER.

proper and right under some circumstances for married people to avail themselves of these provisions of our economy.

When Should Offspring be Limited?—When the wife is distinctly suffering from over-much child-bearing; when the children are coming so rapidly that they interfere with each other's nutrition; when a destructive hereditary disease has broken out after marriage; and when the wife can not bear children without serious danger to her life.

Those who coincide with us here may urge the objection, and it is a partially valid one, that the observation of these natural periods of sterility does not answer the end in view; that they are uncertain and inadequate. They are so to some degree, but we believe them to be much more reliable than they are generally supposed.

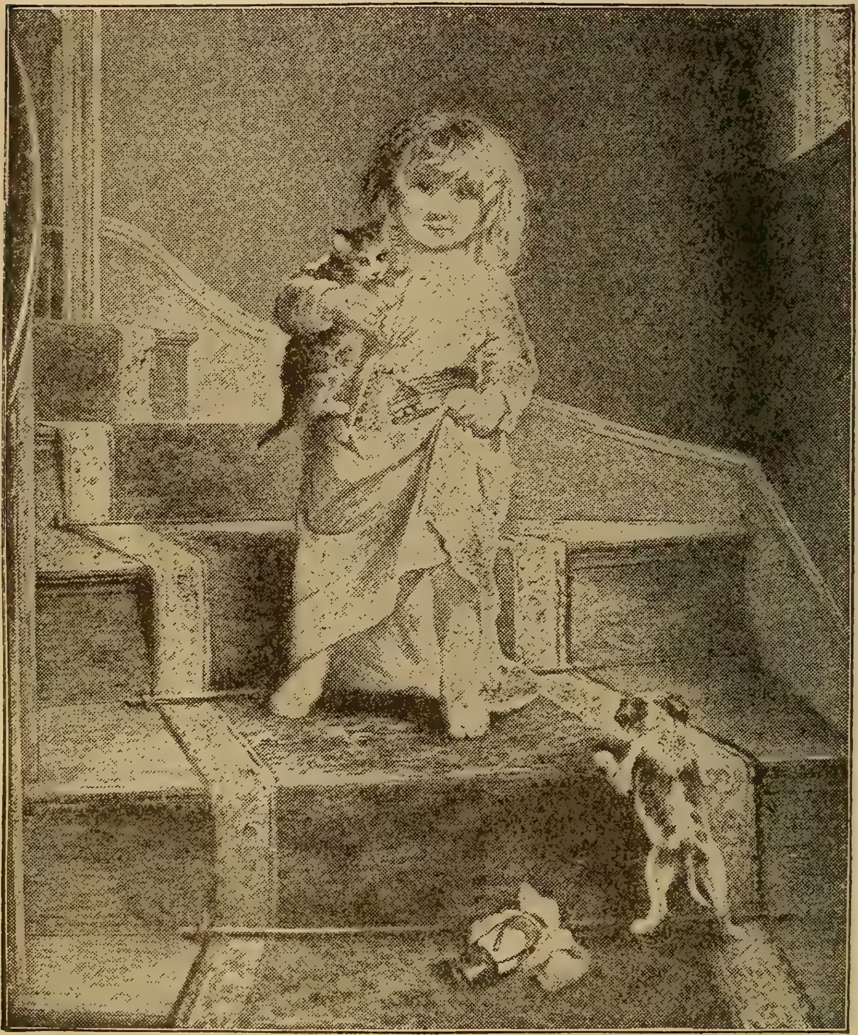
Another Remedy.—The next refuge is to renounce entirely the conjugal privilege. This is a perfectly allowable and proper course, if it be with mutual consent. The objection nowadays urged against it is that it is too severe a prescription, and consequently valueless. This ought not to be. A man who loves his wife should, in order to save that wife overwork, and misery, and danger of death, and wretchedly constituted children, be able and willing to undergo as much self-denial as every one of his continent bachelor acquaintances does, not out of high devotion, but for motives of economy, or indifference, or love of liberty The man who can not do this, or does not care to do it, does not certainly deserve a very high position.

But while all this is granted, the question is still constantly put: Is this all? Is there no means by which we can limit our families without either injuring the health, or undergoing a self-martyrdom which not one man in a thousand will submit to?

Many Methods.—Yes, there are many methods, but we warn against them all. Most of the artificial means proposed for this purpose can not be used constantly without either failing to accomplish their purpose, or sowing the seeds of disease. Many of them are in the highest degree injurious and reprehensible, and are *certain* to destroy health.

All Under Condemnation.—The habit of uncompleted intercourse which many adopt must be disapproved on the same grounds. It does violence to nature, and is liable to bring about premature loss of virility, and serious injury to the nervous system.

It is a doubtful question whether any of the appliances of art recommended for this purpose, even if they are innocent in regard to health, are *morally* to be approved. Whether under some rare and exceptionable circumstances, as when women conceive during nursing, or are incapable of bearing children with safety to life, such means are permissible or not, must be left for the medical attendant to determine, and he alone must bear the responsibility of affirming or refusing to affirm the practice. But in the majority of marriages, where the avoidance of children is sought merely to save expense or trouble, or to give greater room for freedom and selfish pleasure, the resort to such means must be unequivocally condemned.



THE SUNSHINE OF THE HOME.

Too Small Families.—It has become the fashion for parents to be leading round a solitary, lonely child, or possibly two, it being well understood, talked about, and boasted of, that they are to have no more. The means to prevent it are well understood instrumentalities shamelessly sold and bought, and it is a glory that they are to have no more children.

Conditions in France.—A prominent French physician in one of the provincial towns of that country, draws a striking picture of the demoralization it has brought about. He shows how the bonds of public morality have been loosened, the sacred institution of marriage converted into legal prostitution, woman sunk in respect, man yielding to unnatural debauches, losing his better impulses to plunge into sensuality, diseases and debility gaining ground, the number of births constantly decreasing, and the nation itself incurring the danger of falling a prey to its rivals through a want of effective soldiers. The picture is a gloomy one, and is probably but little overdrawn.

Conditions in America.—If it is true that the native American population is actually dying out, and that year by year the births from couples born in this country are less in proportion than those from couples one or both of whom are of European birth, as many have asserted, then we must seek the explanation of this startling fact either in a premature decay of virility, or a naturally diminished virility in middle life in the husbands, or to an increased tendency to sterility in the wives, or else we must suppose there is a deliberate and wide-spread agreement between those who are in the bonds of matrimony, that American women shall be childless, or the next thing to it.

Will We Open Our Minds to Honest Conviction?—We know that, in making the foregoing statements, we must of necessity run against the prejudices of many. Very few people are willing to listen to a dispassionate discussion of the propriety or the impropriety of limiting within certain bounds the number of children in a family.

On the one side are many worthy physicians and pious clergymen, who, without listening to any arguments, condemn *every* effort to avoid large families.

On the other side are numberless wives and husbands who turn a deaf ear to the warnings of doctors and the thunders of the divines, and, eager to escape responsibility they have assumed, hesitate not to resort to the most dangerous and immoral means to accomplish this end.

Let both parties lay aside prejudice and prepossessions, and examine with us this most important social question in all its bearings.

Too Many Children.—Two-thirds of all cases of womb diseases are traceable to child-bearing in feeble women.

Every farmer is aware of the necessity of limiting the offspring of domestic animals. How much more severe are the injuries inflicted on the delicate organization of woman!

Puny, Sickly, Short-lived Children.—The evils of a too rapid succession of pregnancies are likewise conspicuous in the children. There is no more frequent cause of rickets than this.

Puny, sickly, short-lived offspring follows over-production. They come to overburden a mother already overwhelmed with progeny. They can not receive at her hands the attention they require. Weakly herself, she brings forth weakly infants. Thus are the accumulated evils of an excessive family manifest.

Another Reason.—There are also women to whom pregnancy is a nine-months' torture, and others to whom it is nearly certain to prove fatal. Such a condition can not be discovered before marriage, and therefore can not be provided against by a single life. Can such women be asked to immolate themselves?

A MOTHER'S LOVE.

Hereditary Hindrances.—Apart from these considerations, there are certain social relations which have been thought by some to advise small families. When either parent suffers from a disease which is transmissible, and wishes to avoid inflicting misery on an unborn generation, it has been urged that they should avoid children. Such diseases not infrequently manifest themselves after marriage, which is answer enough to the objection that if they did not wish children they should not marry.

John Stuart Mill says: "Little improvement can be expected in morality until the producing too large families is regarded with the same feeling as drunkenness, or any other physical excess."

Conflict of Opinions.—One says that the wish to limit offspring arises most frequently from an inordinate desire for indulgence.

Others affirm most positively that more frequently the wish springs from love of children. The parents seek to avoid having more than they can properly nurture and educate. They do not wish to leave their sons and daughters in want. This second motive, though not the highest, is more common than is usually supposed.

But in most cases this over-anxiety for the welfare of the children works evil, for there should never be less than *two* children in a family, perhaps not less than four, if it be possible properly to have them. An intimate friend of the writer expressed his regrets that he had but one child in his family. She is a lovely daughter, but the father thinks it would have been better for his daughter, as well as for the parents, to have had more children.

An Excuse for Self-Indulgence.—Many men, in trying to find an excuse for self-indulgence, seek it in religion. They insist that the wife should bear all the children possible; that the Bible teaches it; that it is wicked to place any obstruction in the way of bearing children; that "God sends all the children in a family, few or many, in rapid succession or far apart, strong or weak, bright or stupid, good or bad, and pre-ordains their lives."

Suppose the stock-raiser should follow the same plan? It is too absurd for serious consideration.

A Wife's Rights.—If a woman has a right to decide any question, it certainly is as to how many children she shall bear. Wives have a right to demand of their husbands at least the same consideration which a breeder extends to his stock.

Whenever it becomes unwise that the family should be increased, justice and humanity require that the husband should impose on himself the same restraint that is submitted to by the unmarried.

In short, the generative impulses of man should be placed absolutely under the sway of *right reason*, *chastity*, *forecast* and *justice.*

A Wife's Duty.—There are women who require no limitation whatever. They can bear healthy children with rapidity, and suffer no ill results. There are others—and they are the majority—who should use temperance in this as in every other function; and there are a few who should bear no children at all. It is absurd for physicians or theologians to insist that it is either the physical or moral duty of the female to have as many children as she possibly can.

"Race Suicide" is a common expression in our day. It arises from the conditions as indicated in the preceding pages. The birth-rate is so low among the native Americans that it is feared by some that the native American stock will ultimately disappear. *An appeal* to patriotism has been made in this matter.

NO HOME COMPLETE WITHOUT THEM.

Not only patriotism, but religion—our duty to God and man—also makes its appeal for larger families.

It is quite clear that patriotism, our duty to God and the race, as well as the happiness of the family relation, demand larger families where both parents are physically, morally, intellectually, financially and hereditarily fitted for parenthood.

Karezza.—What is it?

Dr. Alice B. Stockham has on the market a book known as

Karezza, in which she very forcibly urges the practice of Karezza by husband and wife.

Space will not permit us to enter fully into its merits or its defects, if it has either or both.

If the reader is sufficiently interested, we advise the reading of the book.

Dr. Stockham says: "Karezza signifies 'to express affection in both words and actions.'" Also: "Karezza so consummates marriage that, through the power of will and loving thoughts, the *crisis* is not reached, but a complete control by both husband and wife is maintained throughout the entire relation, a conscious conservation of creative energy." In short, "unless procreation is desired, let the final propagative orgasm be entirely avoided. With abundant time and mutual reciprocity the interchange becomes satisfactory and complete without emission or crisis."

Dr. Sperry says: "Doubtless there are a few cold-blooded, semisexed men and a considerable number of passionless women who could successfully adopt this practice. Perhaps a few old and sexually decayed men and women can employ it quite satisfactorily. I am forced to the conclusion that average men and women, who possess fullness of sexual vigor, alert minds and live nerves, can not indulge in sexual connection and experience a satisfactory play of the affections without passing on to coition, sexual spasm and discharge of semen. When starving men learn to hold pleasant and nutritious food in their mouths for an hour without swallowing it, then we may expect passionate men and women to adopt Zugassent's discovery (Karezza) as a practical method of healthfully enjoying the mental and physical pleasures of sexual embrace."

SECTION TWO—THE UNWELCOME CHILD

Abortion is the expulsion of the product of conception at any period of gestation before the fetus becomes viable.

Miscarriage, the act of bringing forth before the natural time; premature birth.

Criminal Abortion, the act of causing abortion, or miscarriage, in a pregnant woman, *unless when necessary* to preserve the life of the mother.

A Punishable Crime.—Criminal abortion is a crime, punishable by severe penalties in most states and Christian nations. It is extremely dangerous, and exposes the woman to life-long injury, or to death.

The Husband the Instigator.—It is useless to deny or to conceal the fact that in many instances the husband's dislike of a large family, combined with his unwillingness to practice self-denial in regard to his appetites, is the motive which, beyond all others, induces the wife to visit the fashionable aborter, and to destroy the fruit of her womb and imperil her own life and health. This cowardice and brutality on his part can not anywhere find an excuse.

For the woman, enfeebled perhaps by too excessive child-bearing, for which her husband is generally wholly responsible, for few of our wives do not become, sooner or later, virtually apathetic; for the woman, timid, easily alarmed, prone to mental depression or other disturbance, and dreading the yet safe and preferable labor that awaits her, there is a certain measure of excuse. For her husband, none.

AN UNINVITED GUEST.

This flagrant abuse is not confined to immoral circles of society, nor to the corrupt atmosphere of our great commercial centers, but extends into remote country hamlets, and throughout all grades of social life. We call upon our readers by example and precept to do their utmost to stem its devastating tide, and, at least in their own families and among their friends, to mete its due reprobation.

Its worst effects are not seen in marriage, though no physician is ignorant how many women in the community suffer from the vile "French pills" and "female regulators" hawked about, as well as from rude instruments in awkward and unfeeling hands. But it is in the impunity which the vicious believe they enjoy, the temptation to indulge in lustful and illegitimate *liaisons*, the weakening of virtue, that its most serious consequences are manifest.

Feticide is Murder.—The following is from Dr. Stockham's *Tokology:* "Many women have been taught to think that the child is not viable until after the quickening, and that there is no harm in arresting pregnancy previous to the feeling of motion; others believe that there is no *life* until birth, and the cry of the child is heard. * * *"

Life From Inception.—When the female germ and the male sperm unite, then is the inception of a new life; all that goes to make up a human being—body, mind and spirit—must be contained in embryo within this minute organism. *Life must be present from the very moment of conception.* If there was no life there could be no conception. At what other period of a human being's existence, either pre-natal or post-natal, could the union of soul and body take place?

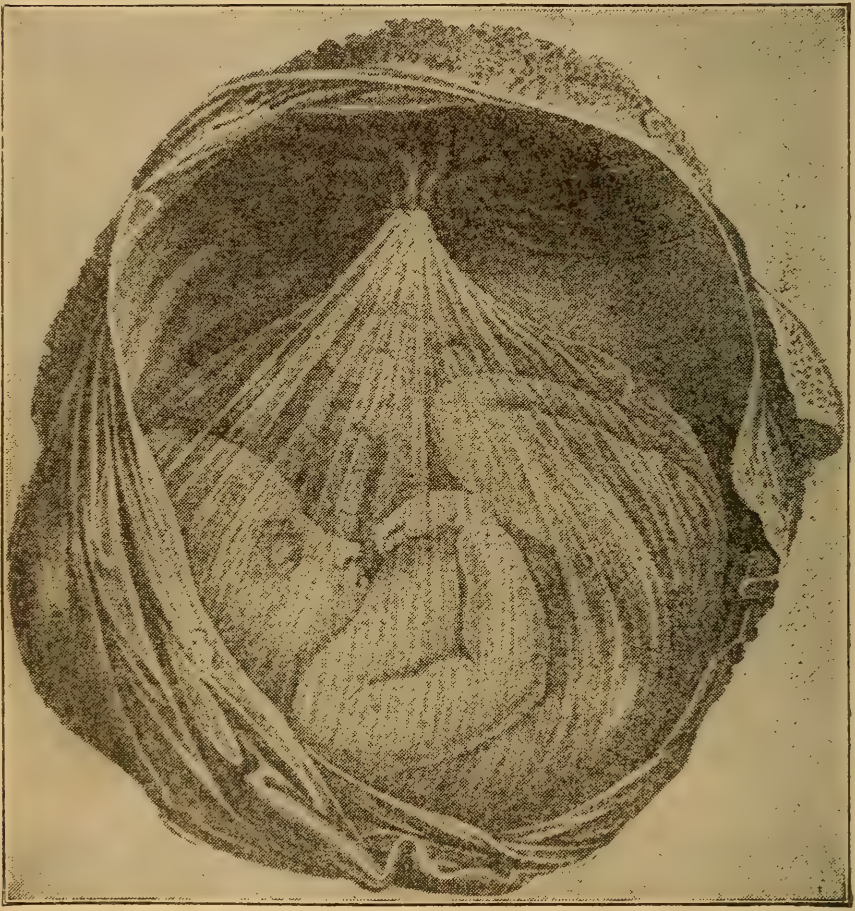
The Guilty.—"Is it not plain that the violent or forcible deprivation of existence of the embryo, the removal of it from the citadel of life, is its premature death, and hence the act can be denominated by no milder term than *murder;* and whoever performs the act, or is accessory to it, in the sight of God and human law, is guilty of the crime of all crimes?"

Grave Responsibilities.—There may be no harm or sin in *preventing* conception, but from the moment of conception there are present all the possibilities of a human being. There are the possibilities of a Wesley or a Webster, of a Paul or a Peter; at least, a *man.*

The Mother's Love for Her Babe.—Again from Dr. Stockham: "The life of the babe in her arms is to the mother more precious than all else; her heart is thrilled with a pang of agony at the thought of the least danger to its life. By what false reasoning does she convince herself that another life, still more dependent upon her for its existence, with equal rights and possibilities, has no claim upon her protection? More than this, she deliberately strikes with the red hand of murder, and terminates its existence with no thought of wrong, nor consciousness of violated law.

An Unnatural Act.—The woman who produces abortion, or allows it to be produced, risks her own health and life in the act, and commits the highest crime in the calendar, for she takes the life of her own child."

We quote this with approval, believing that every statement is true. The puzzle to us is, how any sane person can think otherwise.



OVUM OF SIX MONTHS AGE.

CHAPTER XII

CHILDREN

SECTION ONE—PUBERTY

What is It?—At a certain period in the life of the youth he undergoes a change by which he acquires powers which qualify him to take part in the perpetuation of his kind. This change is the period of *puberty*. It is distinguished by a number of physical alterations, the most significant of which is the secretion of a fecundating fluid.

The proper age at which puberty should come varies from twelve to eighteen years, as it is influenced by many surrounding conditions.

The Boy's Changes.—When the boy passes to the condition of youth he leaves behind him the characteristics of childhood. The skin becomes coarser and less delicate, the muscles firmer and more distinctly marked, the voice loses its childish treble, the vocal apparatus enlarges and emits a harsher sound, the bones harden, the "wisdom teeth" appear, various parts of the body become covered with a soft down which gradually becomes rougher and thicker, and those organs peculiar to his sex enlarge.

Not less remarkable are the mental changes. Unwonted desires and sensations, half understood and confusing, awake in the mind impulses to which he has been a stranger, vague longings after he knows not what, sudden accesses of shamefacedness in circumstances where he had ever been at ease, a restlessness and a wilfulness, indicate to the observing eye the revolution which is going on within. Perilous moment for the boy!

Causes of Variation.—*1. Climate.* Travelers have frequently observed that in tropical countries both the sexes arrive at maturity earlier in life than in temperate or cold countries. This explains the early marriages which are customary in those localities, and which do not appear to exert the injurious influence on the offspring which is almost constantly observed in temperate climates from premature union.

2. Hereditary Tendency. This is constantly observed as hastening or retarding by a year or two the development of both sexes. It is to some extent connected with race, as it is found that negroes are more precocious than whites, and boys of southern parentage than those of northern. This is readily seen to be traceable to the influence of climate just referred to.

3. *The temperament* is also a controlling influence. Light haired, stout, phlegmatic boys are longer in attaining the age of puberty, than those of nervous and nervo-bilious temperaments.

AN UNEXPECTED MEETING.

4. *Occupation* and *habits* have also much to do in the matter. As a general rule, the more vigorous, the more addicted to athletic exercise, the more accustomed to outdoor life, and to active

pursuits, the slower will be this change in approaching. This statement may be unexpected to many; they may think that vigorous health is precisely what nature would wish to assist her to complete this profound and mysterious transformation in the constitution.

5. *The constitution*, by which we mean the mass of morbid or healthy tendencies inherited from parents, consequently has very considerable weight in determining the time at which the change will take place. In accordance with the physiological law just quoted, it is very generally found that boys with weak, nervous, debilitated constitutions are apt to be precocious, and those gifted by their parents with sturdy limbs and a powerful frame remain boys much longer.

Hygiene of Puberty.—The less that the boy and the youth think about, or any way have their attention directed to, the sexual distinctions, the better. Does it follow from this that it is the duty of parents and teachers sedulously and wholly to refrain from warning them, or giving instructions of a private nature? This important question has been frequently discussed, and there are now, as there always have been, men of influence who answer it in the affirmative. But it is also worth remarking that without an exception those medical authors who have given most constant and earnest attention to the diseases and disorders which arise from the prevailing ignorance in such matters are earnest and emphatic in their recommendations to educators and to parents to give sound advice to the boys, and to urge upon them the observance of certain precautions, which tend to remove premature excitements.

False Modesty.—It is one of the most important duties of those who have charge of youths to see that neither by ignorance nor urged by opportunity or intellectual stimulants, they forestall nature's own good time. Most inexcusable is the false modesty which, on the ground of fear lest indecorous thoughts should be awakened, serves as the plea for wholly neglecting this vital department of sanitary supervision.

Muscular Development.—Systematic, daily, regulated exercise, pushed to the verge of fatigue, and varied so as to keep up the interest of the pupil, can not be too much insisted upon. This alone is worth all other precautions, and is almost indispensable. Now that most large schools have gymnasiums attached, and especially as light gymnastics have been so widely introduced, and can be put in practice at such small expense, there is no excuse for neglecting this precept. Parents will do well to decline sending their boys to any institution which has no provisions for physical culture.

Cleanliness.—It were an excellent arrangement for every boy to be induced to take a sponge bath, or, what is better, a shower bath, every morning, in cool or cold water.

Avoidance of Irritation from any cause is always essential.

It may arise from ill-fitting drawers or pants, or from an uncomfortable seat, or from constipation of the bowels, or from an unhealthy condition of the urine or bladder, from piles, and much more frequently from worms, especially those familiarly known as seat-worms. Soft cushions should be dispensed with; cane-bottomed chairs and benches are for many reasons preferable. Certain varieties of skin diseases of a chronic character are attended by such a degree of heat and itching that the child is led involuntarily to scratch and rub the affected part. Whenever they attack the inside of the thighs or lower part of the abdomen, they should receive prompt and efficient treatment.

ASLEEP ON DUTY.

The Dormitory Regulations should invariably be of a character to promote modesty. Never should two or three boys be allowed to sleep in the same bed, and it were more prudent to assign each a separate chamber. They should be encouraged by precept and example to avoid needless exposure of the person and indecorous gestures. The beds should be tolerably hard, mattresses of hair or with springs being greatly preferable to those of feathers, cotton or sponge. These latter are heating, and, therefore, objectionable. The bed clothing should be light, thick comfortables being avoided, and the chambers should be cool and well ventilated. Every boy should be required before retiring to empty the bladder, as the presence of much fluid in that organ acts as a sort of irritation on the surrounding parts. When a boy wets his bed during sleep, it may be taken as evidence that he either neglects his duty, or else that there is some local irritation present which requires medical attention. Sleeping on the back should be warned against, as this is one of the known causes of nocturnal excitement and emissions.

Moral Training.—Equally important as these physical regulations is it that the boy should be assiduously trained to look with disgust and abhorrence on whatever is indecent in word or action. Let him be taught a sense of shame, that modesty is manly and honorable, and that immodesty is base and dishonorable.

Passion the Foundation of Nobility.—All these precautions are to what end ? To avoid exciting the *passion of sex.* It is well to hold this clearly in view ; and it is also well to understand distinctly what this passion is.

Is this passion a fire from heaven or a subtle flame from hell?

The noblest and most unselfish emotions take their rise in this passion of sex ; the most perfect natures are moulded by its sweet influence ; the most elevating ties which bind humanity to holy effort are formed by it.

The wise man will recognize in the emotions of youth a power of good, and a divinely implanted instinct, which will, if properly trained, form a more symmetrical and perfected being than could possibly be in its absence; and he will have impressed upon him the responsibility which devolves on those who have to control and guide this instinct.

When Does Passion Commence?—It is not at the period of puberty that passion commences. In fact, it is hard to say how early it may not be present ; and this point we wish to impress the more emphatically, because parents and teachers, in spite of their own boyish experiences, if they would but recall them, are too liable to persuade themselves that at the age of five or ten years no particular precautions are necessary. But the physician knows that even in infants it is not very rare to witness excitement of the organs, which must depend on the action of those nerves which control passion.

Self-Abuse.—Self-abuse not uncommonly prevails at the ages we have mentioned, and proves the early development of the instinct. In such cases it is as purely nervous phenomenon not associated with the discharge of the secretion, which does not yet exist.

A Source of Elevation or Ruin.—The danger that threatens is not to be obviated by a complete repression or an annihilation of this part of our nature as something evil in itself, but by recognizing it as a natural, prominent and even noble faculty, which does but need intelligent education and direction to become a source of elevated enjoyment and moral improvement.

Should the false modesty, the ignorance or the neglect of those who have charge of youth at the critical period when the instinct first makes itself felt leave it to wander astray, it is with the certainty of ensuing mental anguish, physical injury and moral debasement. To what a hideous depth these aberrations of passion may descend we dare not disclose; for, as the Apostle says, "it is a shame even to speak of those things."

Age of Puberty in Man.—The power of procreation does not usually exist in the human male until the age of from fourteen to sixteen years; and it may be considered probable that no spermatozoa are produced until that period, although a fluid is secreted by the testes. At this epoch, which is ordinarily designated as that of puberty, a considerable change takes place in the bodily constitution.

The procreative power may last, if not abused, during a very long period. Undoubted instances of virility at the age of more than one hundred years are on record; but, in these cases, the general bodily vigor was preserved in a very remarkable degree. The ordinary rule seems to be, that sexual power is not retained by the male, in any considerable degree, after the age of sixty or sixty-five years.

Female Organism.—The essential part of the female generative system is that in which the ova are prepared; the other organs are merely accessory, and are not to be found in a large proportion of the animal kingdom.

In the human female, the period of puberty, or of commencing aptitude for procreation, is usually between the thirteenth and sixteenth year; it is earlier in warm climates than in cold; and in densely populated manufacturing towns, than in thinly peopled agricultural districts. The mental and bodily habits of the individual have also a considerable influence upon the time of its occurrence, girls brought up in the midst of luxury or sensual indulgence undergoing this change earlier than those reared in hardihood and self-denial. The changes in which puberty consists are for the most part connected with the reproductive system.

Age of Puberty in Woman.—It is to this *periodical* function of her system that woman owes health, life and all that can make her attractive, as woman, to the opposite sex. It can not be that it was designed to be a period of suffering. It is as essential a function of her organism as is breathing. On the regular, healthful recurrence of no function of her nature does her beauty, her energy, her health and happiness more essentially depend. Yet, feebly organized and developed as women, in civiled life, now are, it is generally a period of physical and mental prostration, and often of deepest suffering to the body and anguish to the soul. It is then her nature calls for the tenderest love and sympathy from the opposite sex; but it is the time when, often, even from him who holds to her the relation of husband, she gets the least. But, if men were taught in early life to understand this function of the female system, and its relations to her beauty, health and happiness, and to all the dearest relations of life, they would accord to her, during this period, their purest, tenderest and manliest sympathy.

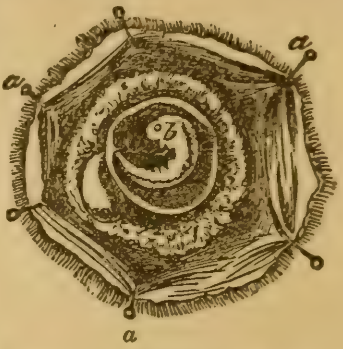
SECTION TWO—ORIGIN OF LIFE

The Life-Germ of Man and Woman.—To prepare the germ of a new man or woman is the noblest function of the male; to provide it sustenance and develop it into a human form is the most perfect work of the female.

Embryo of 12 to 14 days laid open.

The life-germ of the human being is, with other ingredients, contained in what is called the spermatic fluid. This is secreted in the appropriate organs of the male. Thence it is transmitted to the female.

The mysterious process of reproduction evidently consists, in flowering plants, of nothing else than the implantation of a cell-germ, prepared by male organs, in a nidus, or receptacle, adapted to aid its early development; which nidus constitutes the essential part of the female system.



Embryo of Twenty-one Days Laid Open.

a, a, a, Chorion laid open and secured by pins; b, the Embryo with Amnion laid open.

There is now good reason to believe that in no animals is the reproductive apparatus less simple than it is in the higher plants; that is to say, in every instance two sets of organs, a germ-preparing and a germ-nourishing, are present.

These organs differ much in form and complexity of structure in the various tribes of animals. But their essential function is the same in all.

Those which are termed male organs prepare and set free certain bodies which, having an inherent power of motion, have been supposed to be independent animalcules, and are known as spermatozoa. But they can not be independent, as each must unite with an ovum in order to continue its existence; but even then it does not exist as a spermatozoon, but with the egg it forms a new and entirely different being. Thus from the union of a microscopic spermatozoon and an ovum, so small as to be almost invisible, springs *man*, with all his strength and possibilities.

Same Law in Plants and Animals.—The act of fecundation is analogous in animals to the process which takes place in flowering plants. The origin of human beings as the offspring of human beings, is similar to that of all other existences. The reproductive system consists of two sets of organs, whose functions are entirely distinct, each performing its office entirely independent of the other. Of course, the part performed by each is such that the condition of the different organisms must, of necessity, affect the child for good or evil.

SECTION THREE—PRENATAL INFLUENCE

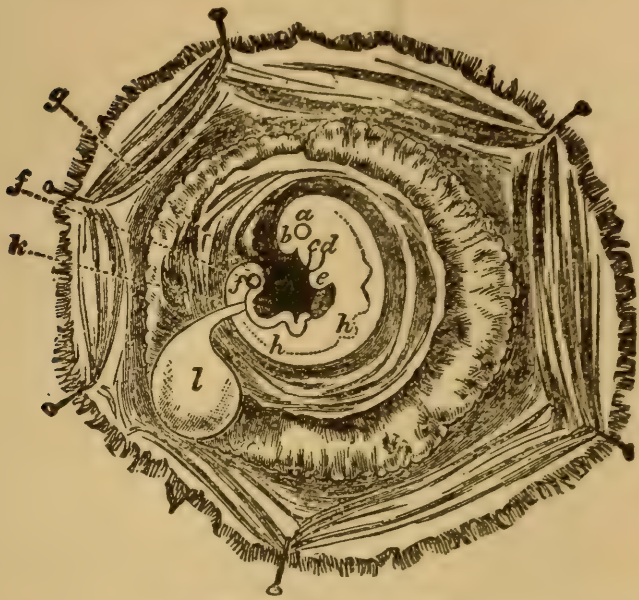
Transmission of Disease.—In preparing the germ, the physical, intellectual and moral conditions of the father must necessarily affect, more or less, its conditions in similar directions. In nourishing and developing that germ, the mother must, necessarily, impart to it her conditions. A healthy mother might, before birth, impart to a diseased germ of a weak and sickly father some degree of health, strength and beauty. Or, a weak and sickly mother may impart disease and deformity to a healthy germ of a healthy father.

Head of Human Embryo,

About tne end of the second month.

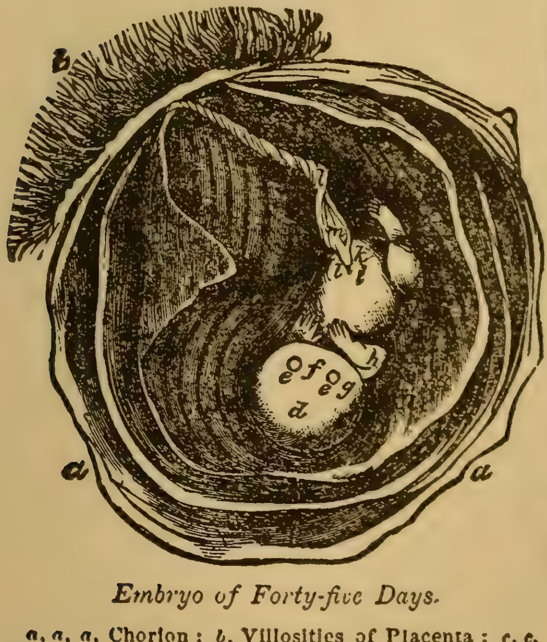
Father and Child.—Does the father, in preparing the germ, so impress on it his own conditions of body and soul that these must necessarily be developed in the future child, so as essentially to affect his character and destiny? That he does is certain. Whatever diseases affect the father must also affect the secretions of his system, and none more so than the germs of future human beings. What an obligation, then, rests on every man, to see to it, so far as he can, that the system in which the life-germs of human existence are prepared should be replete with manly beauty, tenderness and power!

Mother and Child.—No less important is the *maternal* relation to the child before birth! She consents to receive the germ into her organism. It is placed in its only proper position for growth. It has an inherent power to attract to itself, from the liquid in which it floats in the womb, materials for growth to body and soul. These elements, which constitute that growth, are prepared in her system, from the various substances received into it from without. That nourishment must be affected by the conditions of the organism in which it is prepared and administered. The energies of her nature are taxed



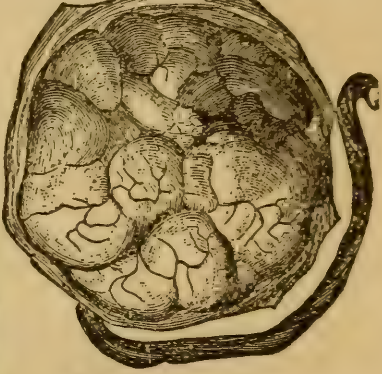
Embryo of Thirty Days.

a, Head of Embryo; b, Eyes; c, Mouth; d, Neck; e, Chest; f, Abdomen; g, extremity of Spine; h, h, Spinal Arch; k, neck of Umbilical Vesicle; l, the Vesicle.

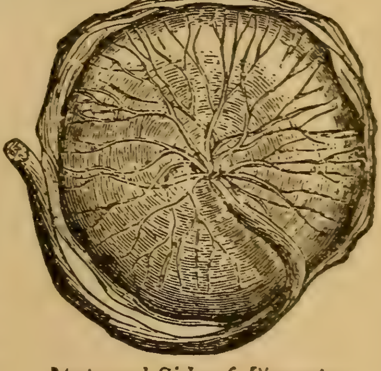


Embryo of Forty-five Days.

a, a, a, Chorion; b, Villosities of Placenta; c, c, Amnion; d, Head of Embryo; e, Temples; f, interval between Eyes or Root of Nose; h, the Arms; i, the Abdomen; k, the Sexual Organs; l, l, Umbilical Cord; m, the internal portion of Cord.



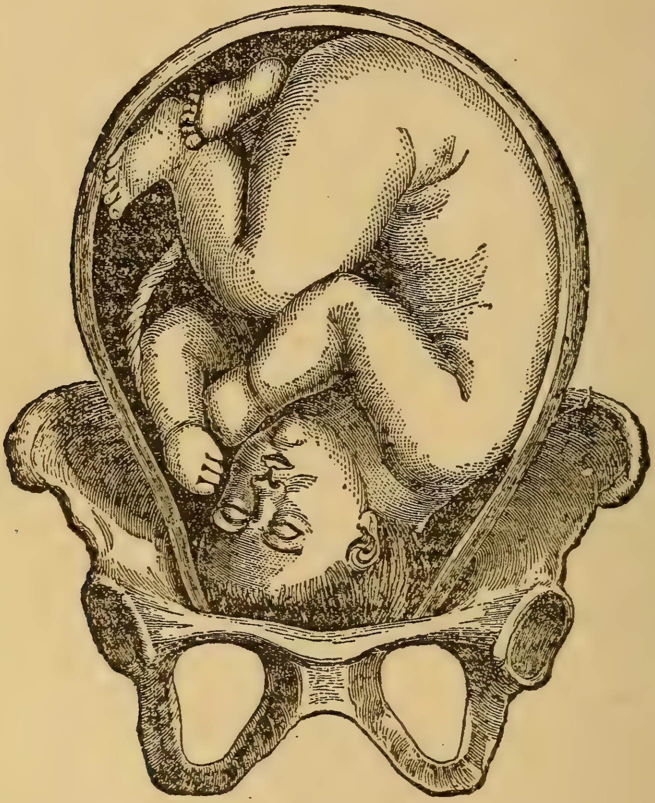
Fœtal Side of Placenta.



Maternal Side of Placenta.

to prepare and administer to the growth of the new being, and should be left free as possible to do well the work assigned to them. She has taken into herself the germ of a new life, in human form, gladly and thankfully, it may be, and by so doing has pledged herself to the future man or woman to confer on him or her health, strength and beauty, to body and soul.

Some Questions for the Mother.—Does that woman know the intimacy and power of the relation which she, *voluntarily*, it is to be hoped, assumes to that germ, which, under her forming hand, is soon to appear in the form of a man or woman? Does she know that, from all she takes into her system in the shape of food, drink, air and the like, the living germ is to extract the substance that must go to form the body and soul of the future living being? When she consented to receive that life-germ of immortal spirit into herself, did she ask the question, whether she was prepared to forego all practices and indulgences that



Fourth position of vertex.

could conflict with the health and perfection of her new charge? Did she ask whether her own organism was in a fit state to receive such a charge, and perform to it the services of a just and loving mother?

Inherited Conditions of Parents.—Facts abundantly prove that the inherited conditions of the parent enter into the organic structure and constitutional tendencies of children. Bad conditions are no less likely to be transmitted than good tendencies. Scrofula, consumption, insanity and idiocy are everywhere recognized as capable of being transmitted from parent to children. This knowledge is acted upon, the world over, by all who are interested in improving the quality of all animate existence *beneath man*, and no pains are spared to get healthy offspring. But what encouragement do they offer for the production of the most beautiful, healthy and perfect specimen of the human being?

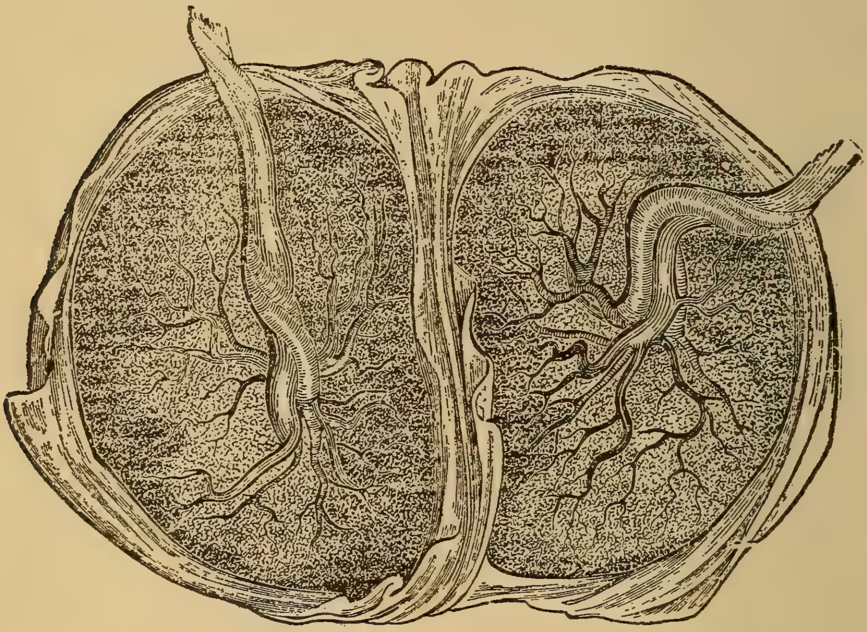
A Father's Disease: An Illustration.—Ponder the following fact: A woman, known in the circle of my friends as healthy, beautiful and highly accomplished, married a man entirely diseased. She had four children. One died in infancy, a mass of disease; one at seven and one at eleven, each a mass of disease from birth, and having known no cessation from suffering during its brief existence. The one that died at seven had more the countenance of one of seventy, caused solely by intense sufferings. One is now living, but her appearance bears the marks of the diseased state that swept away the others. The father died fearfully diseased; the health of the wife and mother was nearly ruined by the diseases of her husband being communicated to her.

Greatest Source of Disease.—What greater outrage against nature could a woman commit than to consent to become a mother by such a man? None. Let every man and every woman, as they would live in the love and respect of their offspring, consider well the physical, mental and moral conditions of those with whom they unite, to become the fathers or mothers of their children. It is computed that more human beings die from diseased tendencies, inherited from parents, who themselves had inherited them, than from war, intemperance, slavery, cholera, fevers and all contagious, adventitious diseases put together.

Acquired Diseases and Tendencies.—Many diseases of body and soul are acquired, and inherited diseases are made more malignant, by abuse. Those whose organizations were originally quite sound acquire, by unnatural indulgences, diseased conditions. There are few whose natural tastes do not reject tobacco, alcohol, tea, opium and various other articles of common use, but of great injury when first they are taken. These acquired conditions, both of body and soul, are transmitted.

Illustrations.—I know of a man and woman who, as to wealth, move in the wealthiest ranks of fashion. The woman is exceedingly passionate and addicted to strong drinks. They had four children. The eldest, greatly deformed by a fall of her mother in a fit of intoxication, previous to birth, died of consumption at eighteen. The second, a dwarf, a mild and gentle one, died at twenty, of consumption. The third was deaf and dumb, and of a malignant temper. The fourth is a demon in temper, and a drunkard. The mother's conditions were transmitted to her children. She had several miscarriages, caused by intemperate habits.

Another Case.—A man and woman, both healthy at marriage, became deceased by abuse of their sexual natures after marriage. He suffered in the lungs; she became deranged in the nervous system and by scrofula. Had five births, the first an abortion produced by sexual abuse during pregnancy. The living children all deceased with scrofula or consumption, or both. Thus, it is seen, the parents go on reproducing, in their own likeness, scrofula and consumption.



Twin embryos

Conditions During Sexual Intercourse.—The conditions of the parent or parents, one or both, at the time of sexual intercourse, have a marked influence on the child.

Proper Conditions.—The soul should be in its happiest and most perfect state, free from care; the love element in the entire ascendant; every element in the soul of each concentrated in love upon the other. The body, in all its powers and functions, should be full of vigor, free from all weariness, or lassitude; not excited by artificial stimulants of any kind.

Conjugal love, when true, is attracted to purity, to beauty, to all that is sweet, tender, pure, delicate. It can have no affinity to coarseness, vulgarity, uncleanness or meanness. Marriage love can do nothing but refine, elevate, beautify and adorn all who come under its influence.

Passion, Not Love.—Passion, existing and seeking indulgence without love, as it generally does, is coarse, selfish, polluted and necessarily tends to degrade and profane both body and soul. No woman, instigated by pure love, can be attracted to a man of filthy, disgusting habits, such as essentially belong to those who use tobacco, alcoholic drinks, opium eaters, and those who live under the influence of any artificial stimulants. No man, influenced by pure love, can be attracted to a woman, as a husband, who lives on artificial excitements. All such, whether men or women, become impure, ugly and necessarily repulsive to true love. The sexual elements in all such become diseased, utterly corrupt and debased, and totally unfitted for the sacred function of reproduction.

Woman, Be Not Defiled.—How can a woman consent to become a mother by a man physically and spiritually polluted by tobacco, alcohol or any foul, unnatural appetite and practice? How can a man receive as a wife, and become a father by, a woman whose body and soul are filled with enfeebling, polluting disease? Passion, gross sensualism, may bring such together to propagate; but pure, chaste, saving love, never. Pure, chaste love can not be attracted to uncleanness and meanness of body or soul. The offspring of impure, unclean souls and bodies must of necessity be defiled. Insanity, idiocy, anger, revenge and diseases of various kinds and degrees appear in the children born of such unions.

Another Illustration.—The following case illustrates the influence of parental conditions, at the time of sexual congress, on the offspring: The wife was a healthy woman, in body and soul—refined and accomplished in heart and intellect, and of great personal grace and beauty. Her husband was a sober, respectable man when she married. He became a sot. Under the influence and excitement of intoxicating drinks, he sought and obtained personal intercourse with his wife. An idiotic child was the result—hopelessly and helplessly idiotic. The mother attributed the idiocy to the drunkenness of the father, and justly, without doubt.

Drunkards Excluded.—No woman, who respects herself or her child, will ever yield to sexual intercourse with a man when he is excited by alcohol, or who habitually or occasionally comes under its influence. *Drunkenness,* in any degree, ***should exclude a man or woman from marriage and parental relations.***

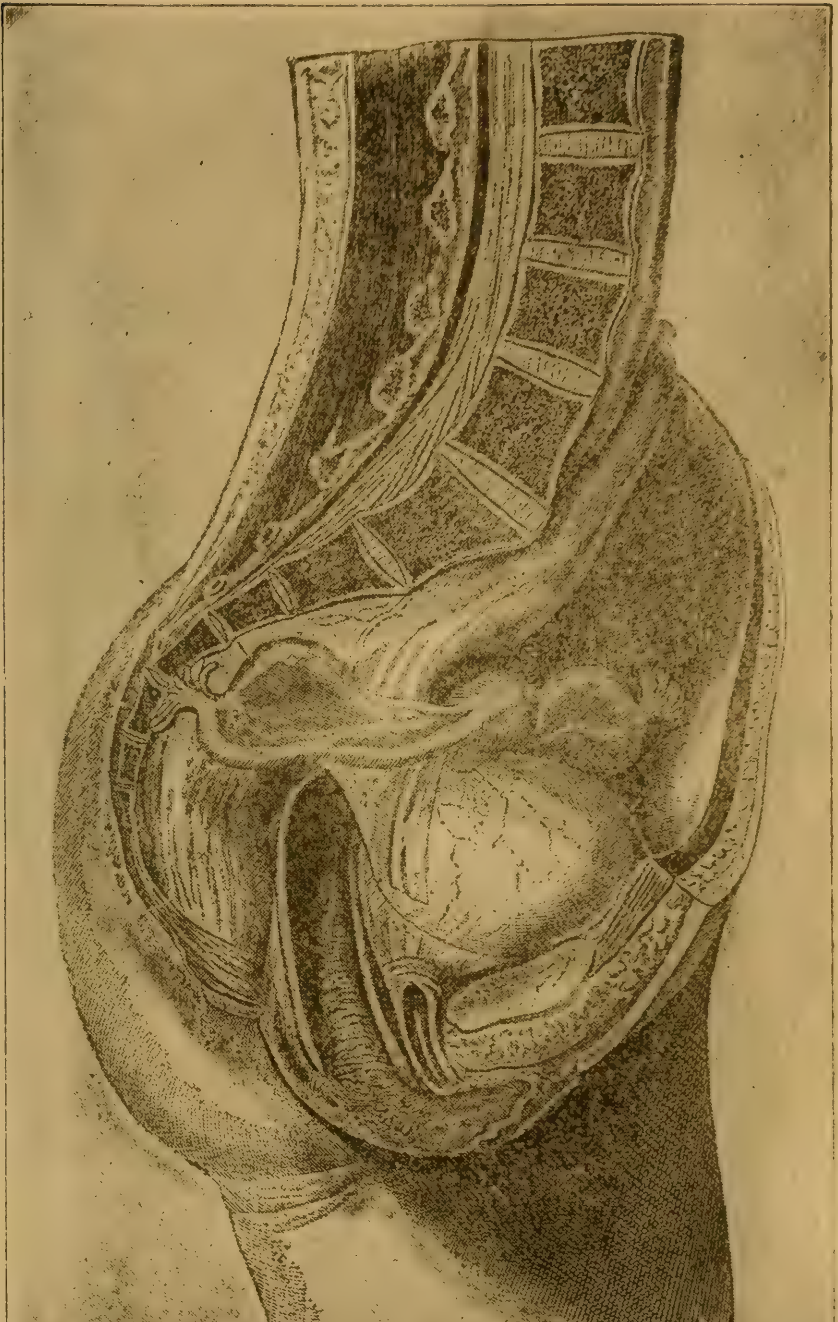
May the day soon come when men and women will so respect the function of reproduction that they will shun all food, drink and pursuits of gain or pleasure that tend to injure and disqualify for parentage of healthy children.

Two Sisters.—Two young sisters are opposite as the poles in their tendencies; one being fretful, impatient, revengeful and seldom satisfied or in harmony with any thing or person around her; the other is exactly the reverse. Both have the same father and mother. What makes the difference? The difference in the conditions of the parents at the time of reproduction. The union from which the former derived existence was had when the parents were laboring under pecuniary anxieties and trials that kept them in constant irritation and impatience, and suffering under a sense of wrongs received; that from which the other sprang occurred under circumstances directly the reverse. One will suffer and the other be happy, as the result of the different conditions of their parents at the time of conception.

A Mother's Testimony.—The following is the testimony of the mother of five children. A stranger asked her one day how it happened that her children manifested such marked differences in their characters. She replied: "I am aware of the difference. It has existed from their birth. They are as different as so many nations. But I know the cause. I can see and feel in each my own mental, affectional and physical conditions at the time of their conception and their birth."

"Mother's Marks."—The effect of the imagination of the mother upon the child before birth is well known. There is hardly anyone but has known of or seen very remarkable instances where the child has become peculiarly marked as the result of some strange impressions on the mind of the mother. These marks often resemble some object making the impressions. Among many cases may be mentioned that of a lady who had a child covered with hair, with hands shaped very much like the paws of a bear, and which she attributed to having often seen the picture of John the Baptist clothed in a bear's skin. The familiar marks observed on the skins of certain individuals, of different colors, and known by the name of "mother's marks," are attributed to various causes. In many instances they are supposed to have been produced by the mother having longed for some particular things while pregnant.

Pure Blood Required.—In whatever manner the marks are produced, it is a well-known fact that the quality of the mother's blood is very much affected by the state of the mind and the various emotions experienced; and as the child must mainly be formed from this blood, its condition is of great consequence to the unborn infant. Joy and a cheerful state of the mind make



LATERAL SECTION OF THE FEMALE PELVIS, WITH ITS CONTENTS.

the blood rich and pure by accelerating its circulation and thus increasing its nutritive properties. Grief and despondency, on the other hand, cause it to become more or less thin and watery, on account of its circulation being very sluggish; its nutritive properties are, consequently, decreased.

Sexes at Will.—It is often a matter of the utmost interest in families to have a child of a particular sex. There is always a disappointment in having a number of children, all either boys or girls. The father, as a rule, takes greater interest in his daughters, the mother in her sons. The ideal family is composed of some of each sex.

Thury's Law.—Many different theories have been advanced concerning sex at will, but we have our doubts about the absolute correctness of any of them. Here is what is known as Thury's law:

He found by a series of experiments with different animals that when the male was given at the first signs of heat in the female, the result was a female; but when the male was given at the end of the heat, the result was male offspring.

Physicians constantly observe that if labor comes a few days before "full term," or just at term, the child is more likely to be a female; but if labor is delayed beyond term, which is the same as saying if the conception took place quite a number of days after the cessation of menstruation, then it is more likely to be a boy.

Terry's Theory.—Terry gives as a tested and proved theory that if the *wife* is in a higher state of sexual vigor and excitement at the time of conception, *boys* will be conceived; but if the reverse is true, girls will be the result.

Dr. Stockham's Idea.—Alice B. Stockham, M. D., believes that sex is in the soul. In that case, the sex of the offspring must be determined by a law of the soul. The parent whose mental forces previous to and at the time of conception are most active and vigorous controls the sex of the child.

Dr. Fowler's Observation.—Dr. Fowler says that the greater male power and passion creates boys; female, girls. Conception right after menstruation gives girls, because the female is the most impassioned; later, boys because her wanting sexual warmth leaves him the most vigorous.

Dr. Fowler Also Says.—It is thought that impregnation occurring within four days of the closing of the female monthlies produces a girl, because the ovum is yet immature; but that when it occurs after the fourth day from its close, gives a boy, because this egg is now mature; whereas, after about the eighth day this egg dissolves and passes off, so that impregnation is hereby rendered impossible, until just before the mother's next monthly.

Queen Bees Lay Female Eggs First, and males afterwards. Mares shown to the stallion late in their periods drop horse colts rather then fillies.—Nepheys.

On Twenty-two Successive Occasions I desired to have heifers, and succeeded in every case by giving the male in the first sign of the heat.—Swiss Breeder.

Intercourse in from two to six days after the menses produces girls, in from nine to twelve, boys.—Medical Reporter.

Other Theories.—There are other theories that, it is claimed, have been proven; but all can not be true. Thury's theory is the only one that can be of any practical use to husband and wife.

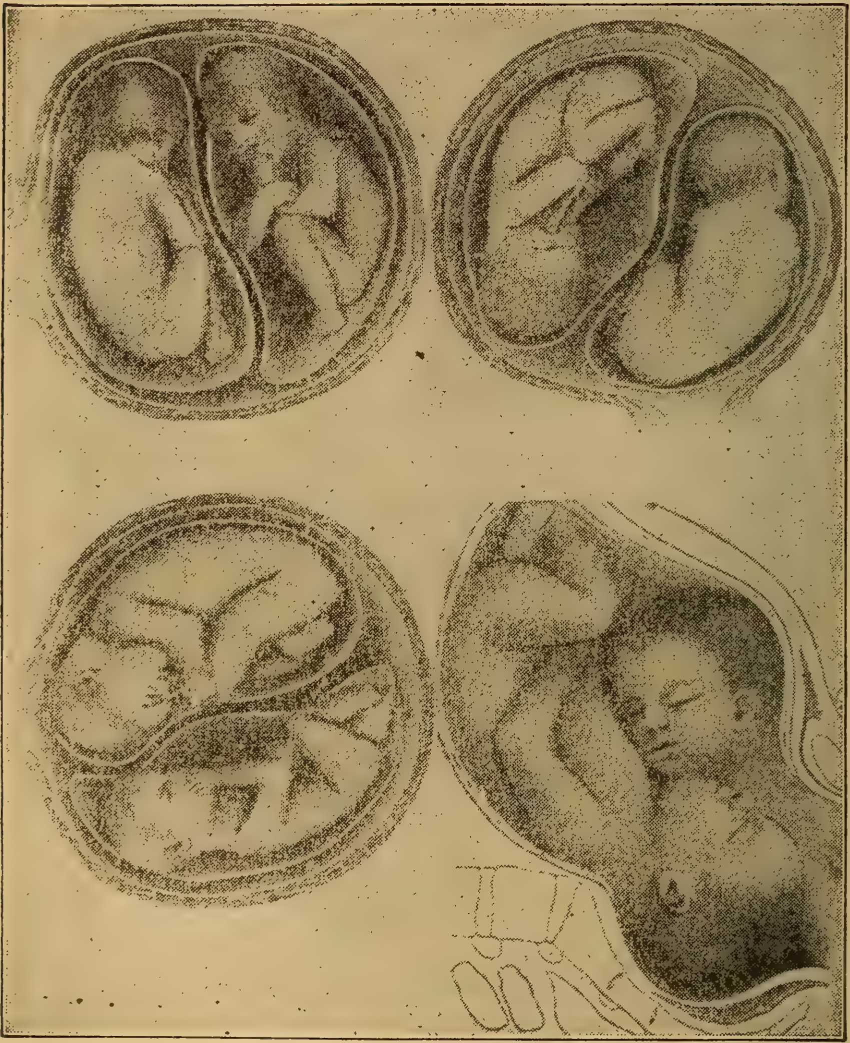
SECTION FOUR—HEREDITY

Definition of Heredity.—Heredity is a term applied to that law of living things in which the offspring resembles the parents, the characteristics of one generation being repeated in the succeeding one; or, in other words, the tendency which there is in plant or animal to be in all essential characteristics like the parents.

Two Ideas.—In the use of the word heredity, there are two conceptions in mind: First, a general conception that "like begets like," as grapes are not gathered from thistles, plum trees do not bear apples nor pears, neither do cats produce a family of dogs. Chickens produce chickens from eggs dropped from the body; the cat bears kittens from an egg retained in the body, each after its kind. This is one conception of heredity.

But we also use the word in a more restricted sense.

Different Races of Man.—As children we learned that the human family is divided into five general races; later in life we learned that these race features and characteristics are inherited, so that we never look for Indian children from negro parentage, nor Chinamen from Caucasians. These races are again divided and subdivided, so that from the Caucasian or white race one may readily distinguish the different nationalities having their peculiar form and features, traits and characteristics. By these they are distinguished from all other tribes and families. The Irishman is as unlike the German as the Jew is unlike the Swede. The brawny, cautious Scot is the opposite of the vivacious Frenchman, and the sturdy, slow-going Englishman can not sympathize with the irascible Spaniard.



DIAGRAMS SHOWING POSITION OF TWINS IN UTERO.

The Bourbon Nose.—Then, again, in the use of the word, one recalls those striking peculiarities of the individual, such as the

"Bourbon nose," which was repeated in successive generations of the royal family of France; also the inherited musical ability of the Bach family, which, in the range of two hundred years, produced more than fifty musicians.

It is this last conception—the peculiarity of the individual—of which we desire to speak. Each individual has some distinction of form or feature, mental trait or characteristic, by which we recognize his personality and which makes him unlike every other person. And should he become a parent, he will probably transmit his peculiarities in a modified form to his children, so that people will say, "How much those children resemble their father," or "These children inherited their gift of language from their talented father." (We say in a modified form, because the mother also bequeathes her peculiarities.)

Heredity or Prenatal Influence.—We must also note the distinction between the laws of heredity and those of prenatal influences.

Dr. Sidney Barrington Elliot states the difference in this way: "*Heredity* is that law by which *permanent and settled* qualities of the parents or more remote ancestors reappear in the child, while *prenatal influence* signifies the effect produced upon the future being by *temporary* conditions of the parents, as by *temporary* mental states (anger, fear, happiness), or by temporary physical conditions (activity, health, exhaustion of a part or of the entire body)."

Like Produces Like.—The fundamental law is that "like produces like." Professor Riddell says: "This law is modified by a secondary law, namely, that the *acquired* characters of one generation are transmitted to the next. In a sense these two laws stand in direct opposition to each other. The terms 'fixed characters' and 'acquired characters' must be considered as only relative terms. There are in reality no 'fixed characters' in nature. Through the operation of the primary law the fixed characters of the species are reproduced and their established peculiarities maintained. Through the operation of the second law the acquired characters of each generation are transmitted to the next and become a part of its hereditary nature.

"If the first were the only law of heredity, then the species must remain forever unchanged; both evolution and deterioration would be impossible. If the second law were the only one or even the controlling factor, then the environment and conditions of each generation would so modify the next as to destroy all established types and finally exterminate the species."

A Musician.—The following is in a mother's own language: "When I was first pregnant, I wished my offspring to be a musician, so, during the period of that pregnancy, settled my whole mind on music, and attended every musical entertainment I possibly could. I had my husband, who has a violin, to play for me by the hour. When the child was born, it was a girl who grew and prospered, and finally became an expert musician."

Murderous Intent.—The mother of a young man, who was hanged not long ago, was heard to say: "I tried to get rid of him before he was born; and, oh, how I wish now that I had succeeded!" She added that it was the only time she had attempted anything of the sort; but, because of home troubles, she became desperate, and resolved that her burdens should not be made any greater. Does it not seem probable that the murderous intent, even though of short duration, was communicated to the mind of the child, and resulted in the crime for which he was hanged?

The Assassin of Garfield.—Guiteau's father was a man of integrity and considerable intellectual ability. His children were born in quick succession, and the mother was obliged to work very hard. Before this child was born, she resorted to every means, though unsuccessful, to produce abortion. The world knows the result. Guiteau's whole life was full of contradictions. There was little self-controlling power in him, no common sense, and not a vestige of remorse or shame. In his wild imagination he believed himself capable of doing the greatest work and of filling the loftiest station in life. Who will dare question that this mother's effort to destroy him while in embryo was the main cause in bringing him to the level of the brutes?

Caution.—Any attempt, on the part of the mother, to destroy her child before birth is liable, if unsuccessful, to produce murderous tendencies. Even harboring murderous thoughts, whether toward her own child or not, might be followed by similar results.

Inheritance of People of Note.—Dr. Lyman Beecher was a leading man in his day. As a scholar and an orator he was a man of force and he transmitted to six of his children such qualities as made them superior to himself and gave them a national reputation.

The parents of the Wesleys were noted for their scholarly attainments and high moral character.

The Harrison family were noted in four generations for their military achievements or statesmanlike abilities.

Of musical genius, Mozart, Bach, Beethoven, Rossini and Bellini are noted examples of the workings of the laws of heredity.

Inheritance of Crime and Disease.—Crime and disease, vice and insanity are an inheritance of the human family, as well as virtue and genius. So are blindness and deafness. Scrofula and consumption are known to run in families for generations. The same is true of malformation.

Blindness Inherited.—Ribot gives this instance: "In one family blindness was hereditary for three generations, and thirty-seven children and grandchildren became blind between their seventeenth and eighteenth year."

Deafness an Inheritance.—Take, for example, the eloquent and tragic story of Chilmarth, on the island of Martha's Vineyard. Here, among the first settlers who came, now twelve generations ago, were two deaf persons. To-day, one in every twenty-five persons in that section is deaf, while a large number of the inhabitants are blind, and several are idiots. A scholarly physician, in a recent essay, referring to this region, observes:

"This community, isolated from the outer world, has not only retained its primitive customs and manners, but the physical taint in the original stock has also produced a plenteous harvest of affliction. At Chilmarth the mental and physical progress is downwards."

Malformation.—From the New York *World* of Aug. 23, 1896, we clip the following sketch of an intensely interesting and queer people who live in the valley of the Cattaraugus, not far from the city of Buffalo, N. Y.:

"NEW YORK'S CLAW-FINGERED PEOPLE.—All the claw-fingered and claw-toed people of Zoar trace their descent from a man named Robbins, who settled there in the early part of the century. His neighbors noticed that his hands and feet were remarkably deformed, being so bent and twisted that they resembled claws more than human hands and feet.

"He was not inclined to talk about the deformity, and it does not appear that he ever explained how he came by it or where he had lived before coming to Zoar. After his deformity reappeared in his descendants, it became the general opinion that he himself inherited it. Some also believed what has now become a tradition in the valley, that Robbins belonged to a well-to-do Eastern family, and that he settled in this almost inaccessible spot because of his deformity.

"Robbins had several children in whom the claw digits appeared, but in a very much modified form. In the third generation, however, the deformity often reappeared in as marked a degree as it had existed in the original Robbins.

"A peculiar thing about this strange heritage is that it is impossible to tell where or in what form it will appear. Sometimes it is inherited from the father, sometimes from the mother; sometimes it appears in all the children of a family, at others in only one or two in a large number.

"Sometimes a father and mother who have well-formed hands and feet will bring up a large family of children, all of them badly and, perhaps, variously deformed; and, again, parents with unsightly digits will have children in whom no deformity appears."

Alcoholic Heredity.—Alcoholic heredity, or the transmission of a special tendency to use spirits or any narcotic to excess, is much more common than is supposed. In the line of direct heredity, or those inebriates whose parents or grandparents used spirits to excess, we find that about one in every three cases can be traced to inebriate ancestors. Quite a large pro-

LOVED AND PROTECTED

ABUSED AND NEGLECTED

portion of these parents are moderate or only occasional excessive users of spirits. If the father is a moderate drinker, and the mother a nervous, consumptive woman, or one with a weak, nervous organization, inebriety very often follows in the children. If both parents use wine or beer on the table continuously, temperate, sober children will be the exception. If the mother uses various forms of alcoholic drinks as medicines, or narcotic drugs for real or imaginary purposes, the inebriety of the children is very common. Many cases have been noted of mothers using wine, beer or some form of alcoholic drinks for lung trouble, or other affections, and the children born during this period have been inebriates, while others born before and after this drinking period have been temperate.

Crime.—The hereditary nature of the criminal propensity is unquestionable. By this is not meant simply that criminals are children of criminals, but also that they inherit such traits of physical and psychical constitution as naturally lead to crime. Ribot says: "The heredity of the tendency to thieving is so generally admitted that it would be superfluous to bring together here facts which abound in every record of judicial proceedings, to prove it."

Drink Makes Idiots.—One of the best proven and most disastrous examples of this is seen in children who have been conceived at the time the father was partially intoxicated. There is no doubt whatever that under such circumstances the child is pretty sure either to be *idiotic*, or to have epileptic fits, or to be of a feeble mind and irritable and nervous system.

What a curse does the cup here entail upon the family! Think, oh, father and mother, how horrible to reflect in after years, that the idiot owes its wretched existence to the intemperate indulgence of the father!

Alcoholism in France.—So serious have become the evils resulting from the use of alcohol by the people of France that the physicians and surgeons of the hospitals have issued a public warning, which is placarded over the country in the hope that it may help to reduce the evils of alcoholism. This placard is distributed by the public powers and posted conspicuously in the public hospitals. It reads, in part, as follows:

"Alcoholics become insane easily and are liable to very painful forms of paralysis. We often treat workingmen who have been very robust and who have become rapidly consumptive because they have regularly taken before each meal their *aperitifs*.

"*The children of alcoholic parents are almost always badly formed, weak minded, insane, scrofulous or epileptic. They die often in convulsions.*

"Criminals are in large part alcoholics or the *children of alcoholics*."

The italics are ours.

Who People Our Almshouses?—In the older portions of our country, the examples are abundant where vagabondism, pauperism and crime have run in certain families for generations. In how many of our almhouses, for instance, may be found pauper families of three generations, grandparents, parents and children.

From an annual report of the directors of the poor in the state of Pennsylvania, we find the following:

"Go back to the time when this almshouse was built, and what has become of the children that were there with their parents? Their families are in the almshouse to-day, grandparents and grandchildren. They are turned out at nineteen and come back again with a family of children, and they grow up and go out only to come back again."

Tendencies.—These are terrible visitations upon the children of men, and if the actual sins were inherited we should be most miserable. But note this fact: it is only the *tendencies* which are inherited. As Rev. M. T. Lamb says:

"The Scriptures teach that the sins of the fathers are visited upon the children unto the third and fourth generation. But thank God there is no fatalism in the sacred Word, for it is added—'unto the third and fourth generation *of them that hate Me.*' The children are not punished for the sins of the parent except they follow their parent's example—'*hate Me.*' Through the mouth of the prophet Ezekiel, God most emphatically protests against the fatalistic proverb—'The fathers have eaten sour grapes and the children's teeth are set on edge.' "

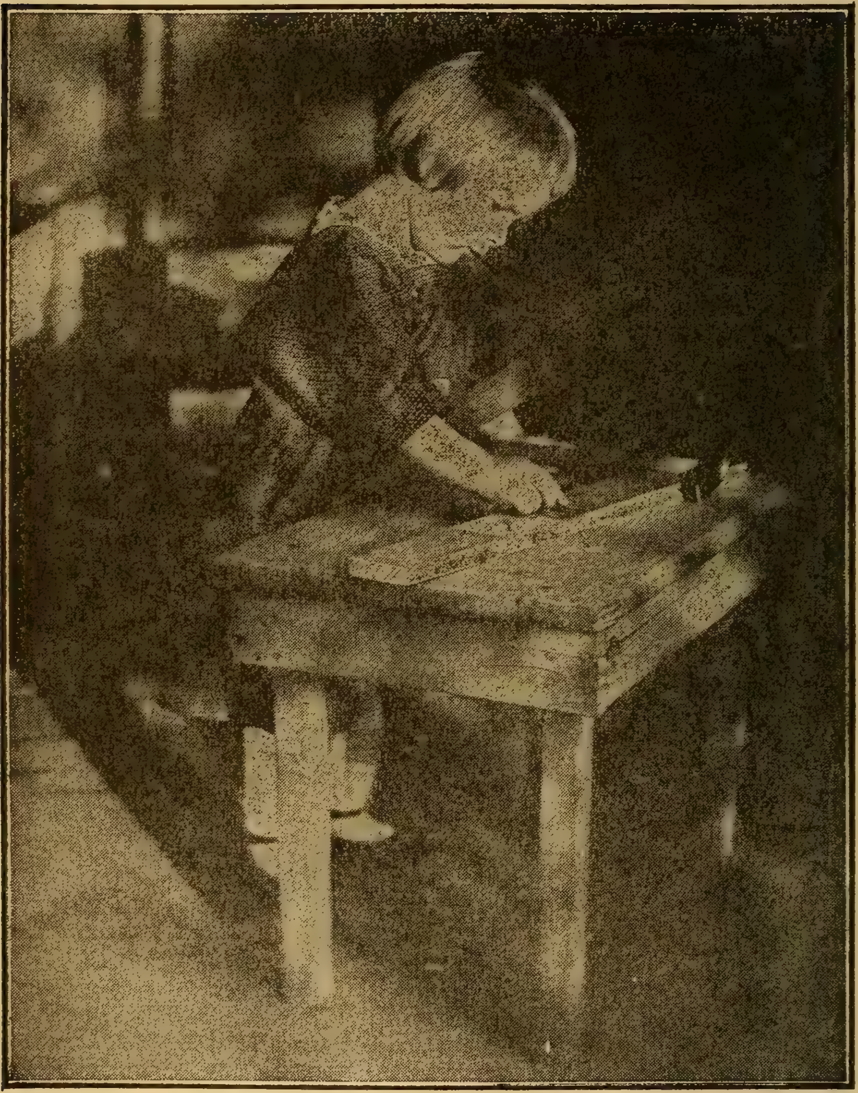
"As I live, saith the Lord God, ye shall not have occasion any more to use this proverb in Israel."

Of the tendency to viciousness, Mr. C. Loring Brace, secretary of the Children's Aid Society of New York, says:

"I believe that the tendency to viciousness may exist in the child, but very often it is dormant; the child is not yet old enough to allow it to have been developed. I believe if such a boy were to continue to live in the same environment to which he had been accustomed from birth—associating with the children of his class, many of whom might be worse than himself—I believe that under those circumstances the hereditary taint would, in course of time, show itself. But we get such boys when they are young; we transplant them to a wholesome farm life, where they soon learn something of the amenities of the family and domestic existence. If they had this dormant, hereditary tendency it is soon eradicated under the new and wholesome conditions in which they are placed."

How to Avoid Having Diseased and Deformed Children.—For what purpose have we brought forward the above facts in regard to inheritance? Merely because of their relation to the important question of prevention. It is this alone which concerns the father who reads these pages, influenced by one of the noblest of all human motives, the desire to benefit his offspring.

The father's care over the health of his child should begin before its birth—nay, before its conception. Proper attention then may avert taints of the system which, once implanted, no medical skill can eradicate. The truth of this statement is recognized by breeders of animals. Mr. Youatt, one of the best authorities upon the breeding of horses, observes: "The first



A FORTUNATE YOUNGSTER.

axiom we would lay down is this, *like will produce like;* the progeny will inherit the qualities or the mingled qualities of the parents. We would refer to the subject of diseases, and state our perfect conviction that there is scarcely one by which either of the parents is affected that the foal will not inherit, or, at least, the predisposition to it; *even the consequences of ill-usage or hard work* will descend to the progeny. We have had proof upon proof that blindness, roaring, thick wind, broken wind, curbs, spavins, ring-bones and founder have been bequeathed both by the sire and the dam to the offspring. It should likewise be recollected that, although these blemishes may not appear in the immediate progeny, they frequently will in the next generation. Hence the necessity of some knowledge of the parentage both of the sire and dam."

Counteracting Influence.—The influence of one parent upon the other in counteracting or intensifying the degree and the certainty with which the physical qualities of one or both are transmitted must be borne in mind. If the same defects be possessed by each parent, they will be quite certain to appear in the children. If only one parent be affected, some or all of the children may escape the inheritance.

It is most fortunate that the tendency of a disease to propagate itself by inheritance is often overpowered by the stronger tendency of a vigorous constitution to impress itself upon the offspring. If it were possible to apply this principle to its fullest extent in every individual case, by never mating a feeble constitution excepting with one of that healthful vigor best calculated to counteract its transmission, the heritage of disease would, doubtless, soon be unknown.

Hope Held Out.—Disease is not eternal. The offspring of sinning fathers are not without all hope. The counteracting influence of one parent over the other with transmission of life, of which we have just spoken, does much to maintain healthful vitality and beauty in spite of the degrading tendencies which may be present. In addition, however, there is a force resident in our nature by which the diseased organization tends to return to health.

Were it not for this beneficent law the human race would rapidly degenerate. The results of its operation can be seen in the faces of the children of squalor and vice who throng the narrow streets and wretched houses of our crowded cities. If, happily, time had not purified the debased organization and restored health, we should look in vain there for that comeliness of features, grace of figure, and strength of limb which are now frequently to be observed. As has been truly said, "the effects of disease may be for a third or fourth generation, but the laws of health are for a thousand."

The Law of Inheritance Variable.—*The law of inheritance is a certain but not an invariable one.* Its force must not be overestimated. For if it were always true that the child of a father tainted with insanity or consumption is born with these affections, then moral law would imperatively forbid marriage. It is known that the offspring of a father who has too many or too few fingers sometimes escapes the transmission, when *both parents have not been similarly affected.* As the child inherits the peculiarities of the mother as well as those of the father, there is hope that nature will right itself.

Consumption Inherited.—The most cruel of all the maladies which afflict us, *pulmonary consumption,* is the one which is most constantly seen in its hereditary form.

That terrible and invincible foe to human life, *cancer,* is a markedly hereditary affliction. Where the taint exists, medical art has few resources either to prevent its transmission or to antagonize its effects.

Gout, Asthma and Disease of the Heart are also transmissible. They are not, of course, exclusively the result of inheritance. They are often developed during the lifetime of individuals whose family record is a clear one. But once having made their appearance in a family, they have a greater or less proneness to recur.

Of all the affections which are transmitted by inheritance, the various *disorders of the nervous system* are the most common. *Hysteria, epilepsy, paralysis* and *insanity* descend from the unhappy parents to the more unhappy offspring.

Insanity.—Insanity furnishes another illustration of the greater disease-transmitting power of the mother. It is transmitted about one-third times oftener by her than by the father. Again, also, we have an illustration of the greater influence of the mother over the diseases of her daughters; for when the mother is insane, it does not affect the sons any more than insanity in the father would, but, on the other hand, the danger of the daughters is double what it would be if the father, instead of the mother, were the affected parent.

The Laws of Inheritance and Disease.—Undoubtedly, judicious marriages would eradicate all hereditary affections. Dr. J. M. Winn, an English physician, who has elaborately studied the nature and treatment of hereditary disease, has drawn up an estimate of the amount of risk incurred under various circumstances, as follows:

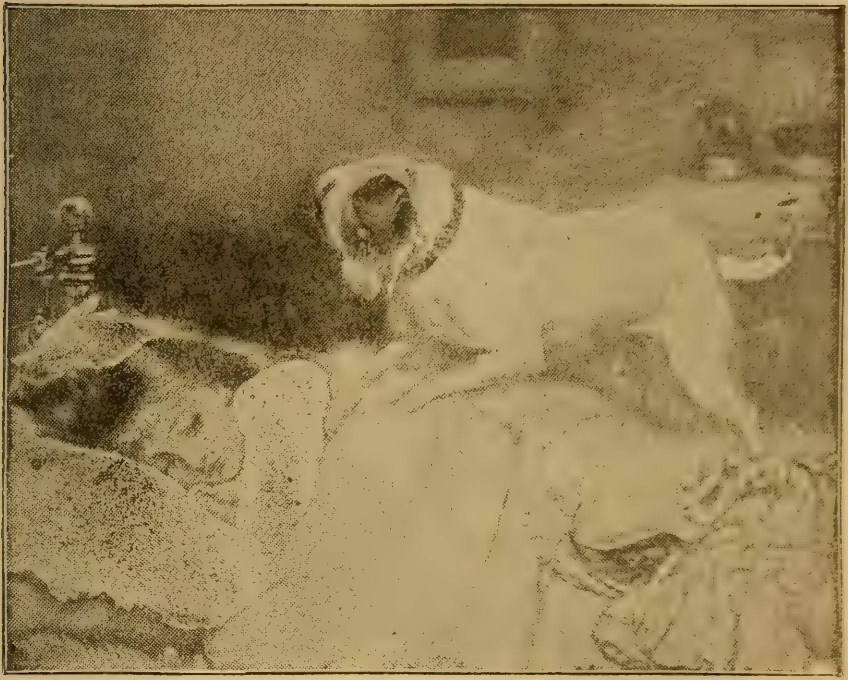
"1. If there is a constitutional taint in either father or mother, on *both* sides of the contracting parties, the risk is so great as to amount almost to a certainty that their offspring will inherit some form of disease.

"2. If the constitutional disease is only on *one* side, either directly or collaterally through uncles or aunts, and the contracting parties are both in good bodily health, the risk is diminished one-half, and healthy offspring may be the issue of the marriage.

"3. If there have been no signs of constitutional disease for a whole generation, we can scarcely consider the risk materially lessened, as it so frequently reappears after being in abeyance for a whole generation.

"4. If two whole generations have escaped any symptoms of hereditary disease, we may fairly hope that the danger has passed.

Atavism.—As a rule, diseases are transmitted directly from the parents to the children, thence to the grandchildren, and so on uninterruptedly from generation to generation. In some cases the transmission takes place from the grandparents to the grandchildren, one generation escaping altogether. This resemblance of a child to its grandparents or great-grandparents, rather than its own father or mother, is known under the scientific name of *atavism*.



"TIME TO GET UP."

It is owing to this influence that disease and deformity, as well as strength and beauty, pass by one generation to appear in another. A child resembles in form or feature its grandfather, or it inherits the epileptic fits or the consumption for which its grandfather is remembered, the father being entirely healthy.

The likeness of a child to its grandparents rather than to its immediate parents is, although a noteworthy fact, one which does not excite much comment from us. But when, as is sometimes the case, the child partakes of the characteristics of a very remote ancestor or of the traits of some far removed representative of a collateral line, descended from a common progenitor, then a feeling of astonishment arises.

Children Otherwise Injured.—Then children of men who have exhausted themselves by *excesses*, or *solitary vice*, or *insufficient food*, or *severe bodily and mental strain*, are not what they would have been had the father not gone to this excess.

Very intellectual men rarely have large families, and though to some extent talent is an inheritance, the children of such are apt to be either quite below or quite above the average.

Offspring of Late Marriages.—The offspring of men who marry late in life usually manifest some signs of the decrepitude which marks their senile father. They are not long-lived, and are rarely healthy. Their teeth and hair fall early, and they are perhaps never conspicuous for sturdy muscles and power of endurance.

Pre-Illness of Either Parent.—Not unlike are those children which are conceived at a time when the father is recovering from or is threatened with a severe illness. A sound hygiene forbids conception when either parent is physically or mentally unfitted for the act of bringing children into the world. It is not only bad for the parent, but it may bring into the world a child condemned to an early death, or perhaps worse, a lingering and painful life.

The Season of the Year.—The season of the year exercises a very manifest action on the secretions of the male element. In domestic and wild animals this is familiar to every one. To a less extent it is seen in the human race. In England there are about seven per cent. more conceptions during the spring months than during any other quarter of the year. The mortality of infants conceived in the spring time is decidedly less than that of those whose existence commenced at any other period of the year.

It would thus seem that a well-defined law indicates that the male, as a rule, is more capable of perpetuating his species when the icy winter loses his hold of the land and the warm breath of the south wind evokes, as if by magic, sweet violets and gay daffodils from the dark and cold earth.

SECTION FIVE—PRENATAL CULTURE

Influences at Work.—There are two potent influences affecting the character of the child. We refer to the power of the mother's imagination over the physical and mental condition of

THE MOTHERLY INSTINCT OF GIRLHOOD.

her unborn infant, and to the influence of the mother's mind on the child at her breast.

Dr. Brittan, in speaking of the first of these influences known as prenatal, says:

"The singular effects produced on the unborn child by the sudden mental emotions of the mother are remarkable examples of a kind of *electrotyping* on the sensitive surfaces of living forms. It is doubtless true that the mind's action, in such cases, may increase or diminish the molecular deposits in the several portions of the system. If, for example, there exists in the mother any unusual tendency of the vital forces to the *brain* at the critical period, there will be a similar cerebral development and activity in the offspring."

In illustration and confirmation of this law, the same author gives the following facts:

"A lady who, during the period of gestation, was chiefly employed in reading the poets and in giving form to her day-dreams of the ideal world, at the same time gave to her child (in phrenological parlance) large *Ideality* and a highly imaginative turn of mind.

"Some time since we met with a youth who had finely molded limbs and a symmetrical form throughout. His mother has a large, lean, attenuated frame, that does not offer so much as a single suggestion of the beautiful. The boy is doubtless indebted for his fine form to the presence of a beautiful French lithograph in his mother's sleeping apartment, and which presented for her contemplation the faultless form of a naked child."

A Schoolmaster's Testimony.—Many years since an old schoolmaster, in the course of his personal experience, observed a remarkable difference in the capacities of children for learning, which was connected with the education and aptitude of their parents; that the children of people accustomed to arithmetic learned figures quicker than those of differently educated persons; while the children of classical scholars more easily learned Latin and Greek; and that, notwithstanding a few striking exceptions, the natural dullness of children born of uneducated parents was proverbial.

Eminent authorities are agreed that conditions influencing a pregnant woman make an indelible impress on the character of her child, modifying and even changing hereditary tendencies.

A Mother's Influence.—It is rather too sweeping an assertion to say a mother has within herself the power to bring forth just such a child as she wishes, because not one woman in a thousand has the conditions she wishes for her own physical and mental comfort. The most intimate relation conceivable is that of mother and unborn babe. Each breath she inhales, the food she eats, the emotions she feels, have an immediate effect on the child.

What the Father May Do.—The direct influence of the father is received at the time of conception. Not only the hereditary or permanent characteristics but also the condition of his mind and body at that time are transmitted. After that his reflection will come through the mother. All other things being equal for the good of the coming child, it still remains that a healthy germ must come from a strong, clean, upright father before offspring can be such as desired.

What Napoleon's Mother Did for Him.—The influence of the mother over the character of the unborn child is often referred to in the case of Napoleon I. Previous to his birth the mother accompanied her husband in expeditions of warfare. She not only became familiar with all the horrors and details of war, but enjoyed it, and herself helped to plan. She was on horseback in the open air most of the time, and acquired perfect physical health. The babe at that time developing, afterwards astounded the world with his genius for warfare.

Dante's Bequest.—The life of Dante was molded by the effect a vision had upon the mind of his mother, which is described in the language of Dr. Davis as follows: "During the important period immediately preceding the birth of Dante, his young mother saw a startling vision of grandeur and great depth of significance. She beheld a populated globe of symmetrical proportions rise gradually out of the sea and float in midheavens. It was decorated with every conceivable element of natural and artificial beauty. Upon a high and grand mountain, which melted away in the distant horizon and sloped gracefully into lands and lakes that spread out to the left, stood a man with a brilliant countenance whom she knew to be her son. She beheld a precipice of abrupt ascent, like the walls of an immeasurable gulf with depth unknown. Thereupon she thought she fainted with excess of fright. But the son was as serene as the morning star; and looking again, she saw no evil. After this thrilling and beautiful vision Dante's mother had only in view the greatness of her unborn child—whose genius as a scholar and poet, as a creator of fancies, is known throughout all lands of civilization."

Burns' Legacy.—The mother of Burns gave to him a happy disposition and genius for putting into rhyme the legends and every-day life of the Scotch by the even tenor of her life before his birth. It is said: "It was her frequent pleasure to give wings to the weary nours by chanting old songs and ballads, of which she had a large store."

May the Mother Determine the Character of Her Child?—Such facts seem to establish beyond question the conviction that the mother has it largely in her power, *by the use of suitable means*, to confer on her child (not, indeed, the *knowledge* which she may herself have acquired, but) such a *tendency of mind* and *conformation of brain* as shall not only facilitate the acquisition of knowledge in any specific direction, but make it morally certain that such knowledge will be sought and acquired.

Not only this, but they indicate also that any desired type of *physical beauty* may be conferred, even where the mother possesses no such quality.

And if this be true in respect to ordinary intellectual abilities and physical features, it must be equally true in regard to extraordinary mental gifts—the qualities of *genius* of every type—and of all *moral* dispositions and *spiritual* tendencies as well.

The following is from the *Arena*, by Mme. Louise Mason:

"At that time I had never known of prenatal influence; I had been warned by an elder sister (my mother dying when I was very young) that I must be very careful not to 'mark' the unborn child by any unpleasant sight—that I must always think of my condition and never put my hands to my face in fright or grief. This was to me a revelation, and I thought, if a child could be 'marked' for evil, why not for good?

"I would often sit alone in my room, overlooking scenes that were pleasant, and, in a peaceful attitude of mind perfectly passive, desire that my child should be a girl; that she should have a slight figure, chestnut hair and beautiful eyes; that she should be a musician, a singer, and that she should be proficient in everything she undertook; that she should be superior to all those I had ever known. Here is the result: a beautiful woman in mind and body, with chestnut hair, slight physique, and a phenomenal voice—contralto; she is a philosopher, a student in Delsarte, astronomy, astrology, and masters every study; is eloquent and has one of the most amiable dispositions.

"My love for the unborn was so intense that it had created invisible lines which have grown with the years. She has returned that love a thousand-fold. She is all I desired, and more; and I am confident that with mothers educated in the law of prenatal influence, and properly surrounded, we could have gods upon the earth in the forms of men, created by the highest and purest thought. It should not be an intense longing on the part of the mother, but a quiet, passive thought given, that her child should become whatever her heart yearns for; then she should rest in the belief until the thought is forced upon her again. Be in the open air as much as possible. Do not eat meat; live upon fruit and grain."

Influence of Mind of Mother on Form of Infant.—There are numerous facts on record which prove that *habitual*, long-continued mental conditions of the mother, at an early period of pregnancy, induce deformity or other abnormal development of the infant.

A Beggar's Hand.—Prof. J. Lewis Smith, of Bellevue Hospital Medical College, New York, has met with the following case: An Irishwoman, of strong emotions and superstitions, was passing along a street, in the first months of her pregnancy, when she was accosted by a beggar, who raised her hand, destitute of thumb and fingers, and in "God's name" asked for alms. The woman passed on, but, reflecting in whose name money was asked, felt that she had committed a great sin. Harrassed by the thought of her imaginary sin, so that for weeks, according to her statement, she was distressed by it. she approached her confinement. A female infant was born, otherwise perfect, but lacking the fingers and thumb of one hand. The deformed limb was on the same side, and it seemed to the mother to resemble precisely that of the beggar.

Bowels Protruding.—A woman who was present at the opening of a calf by a butcher, bore a child with all its bowels protruding from the abdomen. She was aware at the time, of something going on within the womb.

Deformed Lip.—A pregnant woman fell into a violent passion; she bled at the nose, and wiping the blood from her lip, bore a child wanting a lip.

Form of Lizard on Breast.—A prospective mother became frightened at a lizard jumping into her bosom. She bore a child with an unnatural appendage exactly resembling a lizard, growing from its breast, adhering by the head and neck.

Purple Swelling on Face.—Becoming suddenly alarmed from seeing her husband come with his face swollen by a blow, a pregnant woman bore a girl with a purple swelling upon the same side of the face.

A Streak of Lightning.—A pregnant woman known to the writer was much frightened in a storm by a stroke of lightning. Her child bears a zigzag streak upon its forehead, supposed to be caused by the fright.

In What Manner Does This Influence of the Maternal Mind Act?—Through the blood of the mother. Only a very delicate membrane separates the vital fluid of the mother from that of the infant in her womb. There is a constant interchange of the blood in its body with that in hers through this exceedingly thin membrane, and thus all nervous impressions which have produced an alteration of either a temporary or permanent character in the circulating fluid of the mother are communicated to the child. Since the mother, as has been shown, can transmit through her blood certain characteristics of mind and body not her own—for instance, a disease peculiar to a male from her father to her son, or the physical and mental traits of her first husband to the children by her second—it does not seem at all strange that she should through this same medium, her blood, impart other peculiarities which have made a strong impression upon her mind. Anatomy and physiology, therefore, fully explain and account for this seemingly mysterious influence.

CHAPTER XIII

THE YOUNG MAN

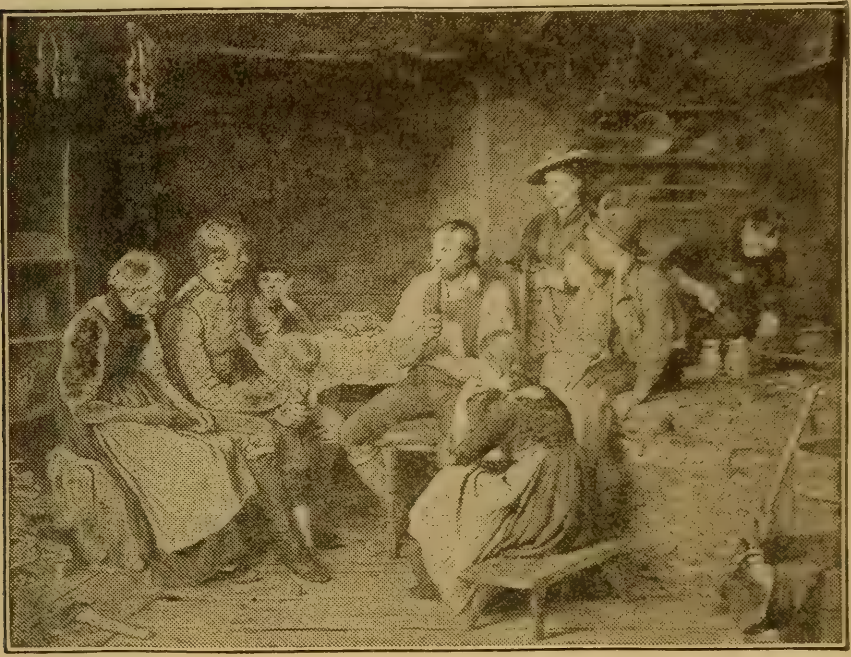
SECTION ONE—THE ROAD TO SUCCESS

Why the Young Man Was Promoted.—"The greatest evils," says Jeremy Taylor, "are from within us; and from ourselves also we must look for our greatest good." We are generally unconscious that we are creating an atmosphere that affects more than any other thing our material prospects as well as our happiness. Joe Arnols felt very much surprised and bitterly disappointed when Harry Jones was chosen as the foreman of a new branch of a manufacturing firm for which they both worked. At first sight it certainly seemed as if an injustice had been done. Joe had been with the firm longer than Harry and his work had given equal satisfaction. Why, then, had he been passed over? A few words with the employer answered the question. "I am sorry for Joe," he said, "and would like to have pushed him forward. I know he is faithful and conscientious, and that he can always be relied upon to do his very best; but he wears such a long face and worries so about every trifle that he creates an unpleasant atmosphere. Judging others by myself, nothing, I believe, attracts people more than a cheerful face and a general air of happiness. Now, this is Harry's advantage over Joe—he always looks happy, and, as the business of the foreman of the new department will be largely with the public, he must be a man who will make a favorable impression at the outset."

Why the Young Man Was Not Promoted.—

He watched the clock.
He was always grumbling.
He was always behindhand.
He had no iron in his blood.
He was willing, but unfitted.
He didn't believe in himself.
He asked too many questions.
He was poisoned by a bad book.
His stock excuse was "I forgot."
He wasn't ready for the next step.
He did not put his heart into his work.
He learned nothing from his blunders.
He felt that he was above his position.
He chose his friends among his inferiors.

He was content to be a second-rate man.
He ruined his ability by half-doing things.
He never dared to act on his own judgment.
He did not think it worth while to learn how.
He tried to make "bluff" take the place of ability.
He thought he must take amusement every evening.
Familiarity with slipshod methods paralyzed his ideal.
He was ashamed of his parents because they were old-fashioned.
He did not learn that the best part of his salary was not in his pay-envelope.

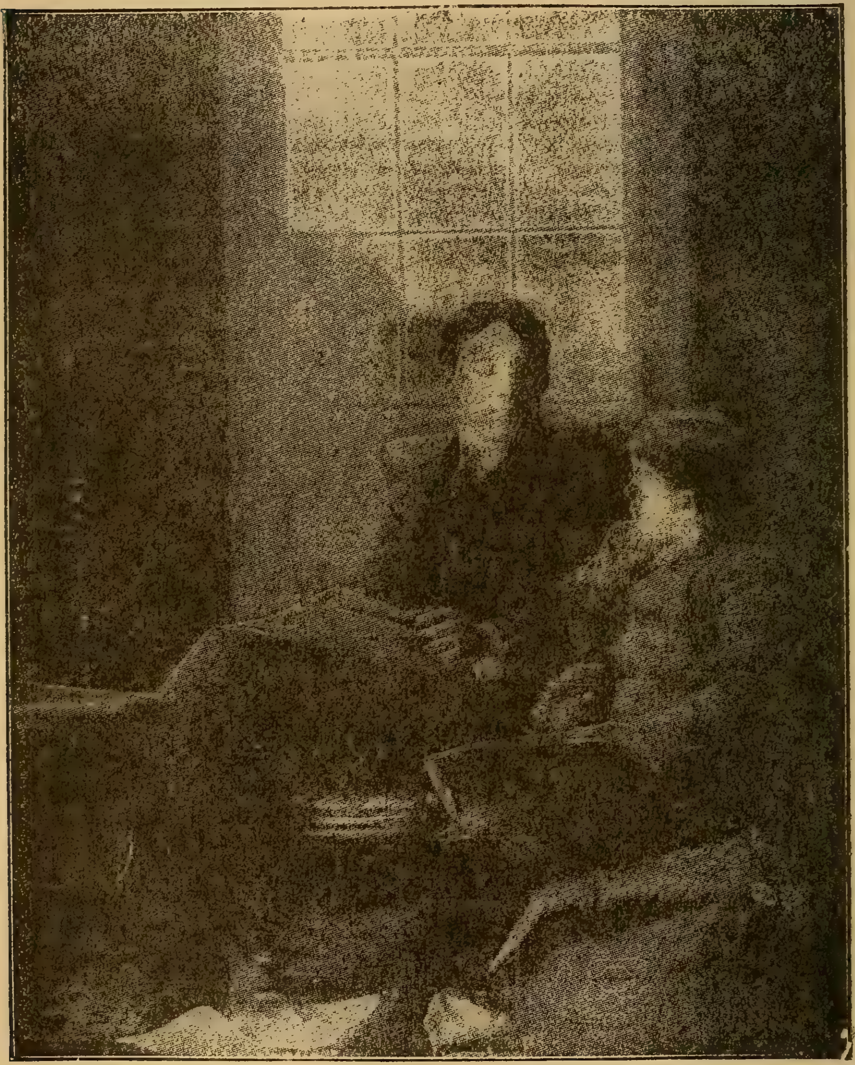


THE CENTER OF ATTRACTION—BACK ON FURLOUGH.

Young Men Arise.—From the street corners, from the saloon, from the loafers' resorts, from the idlers' promenade, turn your steps into the highway of noble purpose and earnest work. There are prizes enough for every successful worker, crowns for every honorable head that goes through the smoke of conflict to victory. Though there are obstacles to be surmounted and difficulties to be conquered, yet with honesty and faithfulness for his watchword, the young man may crown his brow with imperishable honors.

Beautiful lives have blossomed in the darkest places, like pure white lilies on the slimy, stagnant waters.

Work Necessary.—Whatever aptitude for particular pursuits nature may donate to her favorite children, she conducts none but the laborious and the studious to distinction.



A FATHER'S ADVICE TO HIS SON.

God puts the oak in the forest, and the pine on the sand and rocks, and says to man: "These are your houses; go hew, saw, frame, build, make." God makes the trees; man must build the house. God supplies the timber; men must construct the ship. God buries iron in the earth; man must dig it, smelt it and fashion it.

Young Man, Dig for Success.—Great men have always been known as men of action in some line of service. As the great river owes its greatness to the hidden springs in the mountain nooks, so does the wide-sweeping influence of great men take its origin from hours of privacy, resolutely employed in efforts after self-development. The invisible springs of self-culture are the sources of every great achievement.

Away, then, young man, with all dreams of superiority, unless you are determined to dig after knowledge, as we dig in the rocks for the hidden gold.

Blind and Deaf to Home Courtesies and Cares.—"He is a number one boy," said grandmother, proudly. "A great boy for his books; indeed, he would rather read than play, and that is saying a good deal for a boy of seven."

"It is, certainly," returned Uncle John, "but what a pity it is that he is blind."

"Blind!" exclaimed grandmother, and the "number one boy" looked up, too, in wonder.

"Yes, blind, and a little deaf, also, I fear," answered Uncle John.

"Why, John! What put that into your head?" asked grandmother, looking perplexed.

"Why, the 'number one boy' himself," said Uncle John. "He has been occupying the one easy chair in the room all the afternoon, never seeing you, nor his mother when she came in for a few minutes' rest. Then, when your glasses were mislaid and you had to climb upstairs two or three times to look for them, he neither saw nor heard anything that was going on."

"Oh, he is so busy reading," apologized grandmother.

"That is not a very good excuse, mother," replied Uncle John, smiling. If 'Number One' is not blind nor deaf, he must be very selfish indeed to occupy the best seat in the room and let older people run up and down stairs while he takes his ease."

"Nobody asked me to give up my seat or to run on errands," said "Number One."

"That should not have been necessary," urged Uncle John. "What are a boy's eyes and ears for, if not to keep him posted on what is going on around him? I am glad to see you fond of books, but if a pretty story makes you forget all things except amusing 'Number One,' better run out and play with the other seven-year-old boys, and let grandmother enjoy the comfort of her rocker in quiet."

The Little Words.—

You'd be surprised, I'm sure, to know
How far a little word can go.

How many miles it runs away
Up hill and down, a single day;
How many angry hearts it wakes,
How many pleasant friends it makes;
What very wise things it can tell,
What very simple ones, as well;
How very busy, brave and true,
How very false and lazy, too.
So, take good care before that word
By anybody else is heard,
That it shall truly worthy be
To join a happy company
Of helpful words, that march with grace,
And bear sweet sunshine in the face.

SECTION TWO—SELF-RESTRAINT

The Life of Chastity a Struggle.—A life of chastity in man is a life of struggle, especially so with strongly-sexed men. Nature says: "Take what you want." But you must pay the price for it, even to the last cent. Our sexual nature, many times, leads us to accept the invitation, but we pay a tremendous price for what we receive, whenever we take what is sexually unlawful. We think we can defer payment indefinitely, and possibly cheat nature. But in due time payment is demanded, with interest.

Our Nerves.—Our nerves are given us for the most exalted purposes and pleasures; but when poisoned, perverted, diseased, they become the avengers of nature.

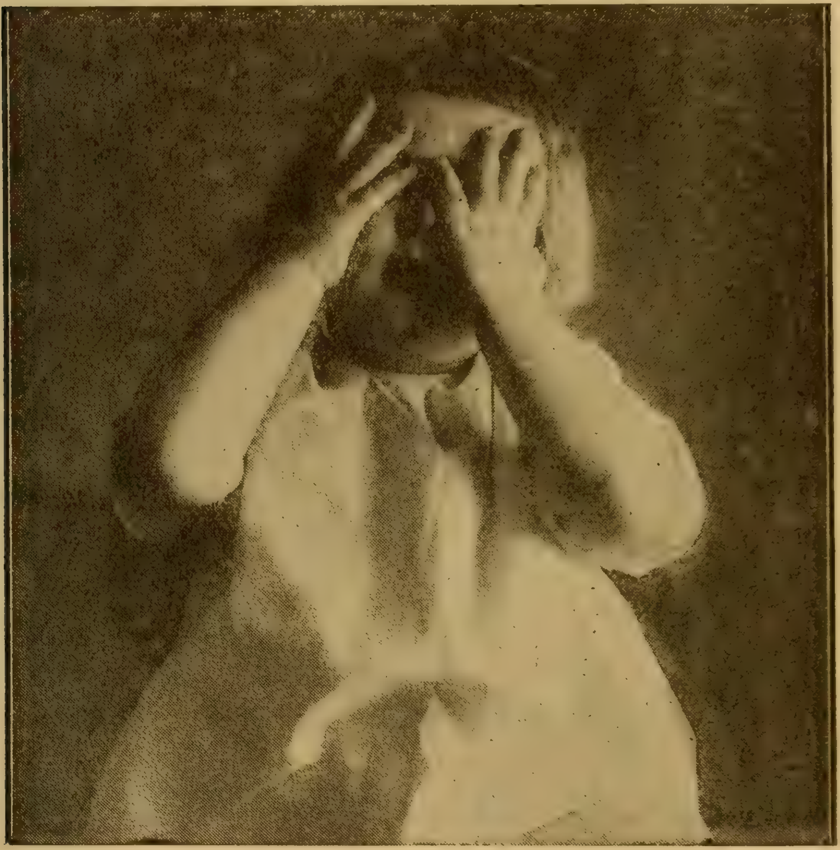
A Continent Man.—The man is continent who commits neither fornication, nor adultery, nor secret vice; but for all that, his mind may be "foul as hell within," and he may nourish his fancy on vile imaginings. Such a one is not chaste. Only he, pure in thought and in life, who withstands and overcomes the promptings of his carnal nature, deserves this noble epithet; he it is who dwells in the condition of chaste celibacy.

A False Theory.—We emphatically condemn, as a most pernicious doctrine, one calculated to work untold evil, and to foster the worst forms of vice, the theory that any injury whatever rises from a chaste celibacy.

The organs are not weakened, nor their power lost, nor is there a tendency to spermatorrhœa, nor to congestions, nor to any one of those ills which certain vicious writers and certain superficial and careless physicians have attributed to this state. No condition of life is more thoroughly consistent with perfect mental and physical vigor than absolute chastity. Those only suffer any ill results from celibacy who are impure in thought or act; and for them it is true, nature has devised bitter tortures, and inflicts them with pitiless severity.

A Source of Intellectual Strength.—"It is important to know there are other uses for the procreative element of man than generation of physical offspring; far better uses than its waste in momentary pleasure.

"This element when retained in the system may be coined into new thoughts, perhaps new inventions, grand conceptions of the true, the beautiful, the useful; or into fresh emotions of joy and impulses of kindness to all around. This, in fact, is but another department of procreation. It is the procreation of thoughts, ideas, feelings of good-will, intuition; that is, it is procreation of the *mental* and *spiritual* planes, instead of the *physical.—A. E. Newton.*



A FINE PROSPECT.

How Appropriated.—Mr. Newton's theory is a fine one and well stated; but how does it come to pass?

The amount of seminal fluid secreted differs greatly among men. As a rule, the glands testes secrete only in quantities during sexual excitement, either mental or physical. Ordinarily, it will, if not ejected, be taken back into the general system by means of the lymphatic vessels.

If, in healthy men, the secretions do occur without sexual excitement of any kind, the absorption by the lymphatics goes on naturally, and to the individual, unconsciously.

Dr. Acton's Statement.—Dr. Acton says that it is the generally received impression that the semen, after having been secreted in the testes, can be reabsorbed into the circulation, giving buoyancy to the feelings, and the manly vigor which characterizes the male.

This powerful vital stimulant animates, warms the whole economy, places it in a state of exaltation and orgasm; renders it in some sort more capable of thinking and acting with ascendancy.

It is not certain elements remaining in the blood, and not eliminated from it, which produce manly vigor or virility; if so, castration would produce it, instead of preventing its development.

Manly Vigor.—For true manly vigor to be apparent, man must be in good health, with sound organs generally, the testes normal and equal to the secretion of semen, and to the retention of it so long as may be required for the natural reservoirs adapted to the purpose.

Sex-Power Retained in the System.—To emphasize the idea of retaining the sex-power in the system, we quote a few lines from "A Child of Light," an excellent work, by Prof. N. N. Riddell:

"Sex-power, if retained in the system during youth and adult life, is converted into magnetism, vitality, energy, vivacity, memory, creative fancy, originality, aspiration, moral courage, sympathy, life, manhood and womanhood."

A hint to the wise is sufficient. He who would improve any attribute of body, mind or soul, and wield the scepter of power; who would feel in mature years the buoyancy of youth, should learn and obey the law of sex.

A Priceless Possession.—He who would thrill with the power of magnetism and inspire others with its subtle force; who would realize the romance of love and the poetry of an ardent soul; who would feel ambition "mount from weird earth to vaulted sky," and know the potency of noble aspirations, should retain the force within his being.

Self-Denial's Reward.—He who would be able to reason clearly and comprehend readily; who would vibrate with another's sympathy and feel another's woe; who would know what it is to be a free man and have that moral courage that will not bear a feather's weight of slavery's chain for small or great; who

DAVID—A NOBLE YOUNG MAN OF LONG AGO.

would stand in the presence of God and man an uncrowned king—resplendent with the glories of human achievement, conscious of the divinity there is in him—"let him deny himself" and follow the Christ in a life of chastity.

Some Errors Corrected.—There is a common error among young men that health requires an emission of semen at stated periods. Many entertain the notion that to give way to venereal indulgences increases the energy and activity of the mind, sharpens the wit, gives brilliancy and power to the imagination, and beautiful and sublime flights to fancy. All this is wrong—entirely, dangerously wrong.

Health does not absolutely require that there should ever be an emission of semen from puberty to old age.

CHAPTER XIV

CHASTITY AND UNCHASTITY

Definition.—*Chaste.*—Free from unlawful sexual intercourse; virtuous.

Chastity.—Sexual or moral purity; continence.

Continence.—Self-restraint with respect to desires, appetites and passions; especially, self-restraint with respect to the sexual passion, either in the married or the unmarried. But according to the Great Teacher, it includes more than the mere outward act: "Whosoever looketh on a woman to lust after her hath committed adultery with her already in his heart." This would include the act of secret vice. It will be seen that the idea of chastity is broad in its meaning and scope.

Is Continence Possible?—Can a well-sexed and healthy young man live a chaste and continent life from the age of puberty to the time of marriage, which may not take place before his thirtieth or even his fortieth year?

Let it be remembered that the sexual appetite is the strongest in our nature; there is no other appetite to compare with it; and herein we see the wisdom and goodness of God, for if it were not strong beyond compare the human race would soon become extinct. Witness the wretched devices of modern society to prevent conception and thus escape the trouble and expense of raising a family; but in spite of all these the population of the world is maintained, although in some localities these devices are blotting out the native population, and handing the country over to foreigners.

A Chaste Young Life is Possible.—Many are ready to answer in the most positive manner that it is not possible for a young man to live a chaste life. We know that it takes a struggle to do so, but we answer most emphatically that it can be done, and in thousands of cases it is done. They have escaped the perils of masturbation and fornication because they were early instructed and cautioned. It is only when a man gives license to his passions that they become regnant and lead him captive at their will.

Don't Judge Others by Yourself.—When you hear one declare that no unmarried man can live a continent life, and that in fact all young men have sexual intercourse occasionally before marriage, you may set that man down as an impure man. He judges others by himself; he associates with young men like himself, snaps his fingers and curls his lip, and says: "They all do it." He is a liar, and libels thousands of pure men who would sooner pluck out the right eye than defile themselves by illicit intercourse.

Thousands Pure.—Human nature is sufficiently degraded, and sensuality is sufficiently rampant, but, thank God, all are not vile and impure. There are thousands of men who never know what sexual intercourse is until marriage, and who struggle heroically against their passion and conquer manfully. There are well-sexed men who never marry and yet live a pure, chaste, continent life to the day of their death. But if a young man gives reins to his imagination, and associates with vulgar, foul-mouthed companions, whose conversation is principally about women, no wonder that he can not control his passion, for he is pouring oil on the fire all the time.

Dr. Acton's Experience.—The following is a statement of Dr. Acton, the noted English surgeon:

"You may be surprised by the statement I am about to make to you, that before my marriage I lived a perfectly continent life. During my university career my passions were very strong, sometimes almost uncontrollable, but I have the satisfaction of thinking I mastered them. It was, however, by great efforts. I obliged myself to take violent physical exertion. I was the best oar of my year, and when I felt particularly strong sexual desire I sallied out to take my exercise. I was victorious always, and I never committed fornication. You see in what vigorous health I am; it was exercise that saved me."

Where to Begin to Conquer.—A horse that has run away a few times can never more be trusted. He has acquired the habit, which, perhaps, nothing but death will break him of.

Sexual passion has its origin in the mind. It is true that physical conditions may be constantly, persistently pulling at the skirts in order to draw the attention of the mind to sexual things, and as these appeals are pleasing, it is difficult to reject them. But after all, by a persistent refusal of the will to consider the lascivious appeals, the victory is won.

Rioting in Visions.—Dr. Dio Lewis says: "All overt sins and crimes begin, we know, in the thoughts or imagination. A young man allows himself to conjure up visions of naked females. These become habitual and haunt, until at last the sexual passion absorbs not only his waking thoughts, but his very dreams. Here is one of the great fountains of our woes. Although we may outwardly present a blameless life, how many of us could wear a window in our breasts without covering our faces for shame?"

Put Out the Fire or Bank It.—It would be folly, if we wished to keep down the pressure in a steam boiler, to keep up the fires; so if we want to be chaste in both thought and act, we must keep down the fires of passion or "bank" them.

Here, again, is what Dr. Lewis says: "Rioting in visions of nude women may exhaust one as much as an excess in actual intercourse. There are multitudes who would never spend the night with an abandoned female, but who rarely meet a young girl that their imaginations are not busy with her person."

The Fountain of Vice.—Continuing, Dr. Lewis says: "This species of indulgence is the source of all the other forms—the fountain from which the external vices spring. * * * Believing that this incontinence of the imagination works more mischief than all other forms of the evil—that indeed it gives rise to all the rest—I am astounded that it has received so little attention."

Cleanse the Inner Man.—Unchastity has contributed above all other causes to the exhaustion and demoralization of the race. We shall not be likely to conquer this monster, even in ourselves, unless we make the *thoughts* our point of attack. So long as we indulge in this *mental* sexual abuse, we are almost sure, when tempted, to commit the overt act. If we can not succeed within, we may pray in vain for help to resist the tempter outwardly. In fact, it is one of the laws of our being that we can not be successfully tempted unless there is answer to the appeal from within.

Dr. Dio Lewis' Recipe.—"Fix it in your mind that a sensual idea is dangerous and harmful; then the instant one comes it will startle you. By an effort you change the subject immediately. You can, if you are in earnest, set such an alarm in your mind that if a lascivious thought occurs to you when asleep, it will waken you."

Fight the Enemy.—Says Dr. Lewis: "If when you are awake the enemy enters your mind, you will be aroused, and expel it at once without a very serious effort. If there is a moment's doubt, spring up and engage in some active exercise of the body.

"Each effort will be easier, until after a week or two you will have, in this particular, complete control of your thoughts, and that will soon make you feel a good deal more like a man."

Obey Health Laws.—The fever and excitement of voluptuous revery wear out the nervous system, emasculate manhood, and shut cut all the noblest visions in this and the world to come.

One must observe health laws. It is the idle, over-fed people who suffer most from all animal excitements. Work hard, or by brisk walks and gymnastics give yourself two or three good sweats every day.

Live Plainly.—Eat plain, nourishing, unstimulating food. Go without supper. Retire early. Drink freely of cold water both on rising and on going to bed, and sleep in pure air. But don't forget to keep the mind pure.

Strong Drink, even in its mildest forms, inflames the passions, and tobacco is only second to strong drink, and both should be rigidly abstained from. All rich and highly seasoned foods must be avoided. With proper diet and bathing, constant employment or hard study will consume the vitality which each day supplies, keep the mind free from lascivious thoughts, and make sleep sweet and refreshing.

The Wife Not a Prostitute to the Husband.—It is both disgraceful and dangerous for a man to use his wife as a libertine does a prostitute. How can he suppose that she will remain pure if he practices corrupt arts and artificial excitation?

Husbands should know that when they abuse their wives by lascivious actions and discourses, they injure themselves and violate the purpose of marriage, and if their wives fail in fidelity in consequence of such corruptions, husbands have no right to demand redress, for they have brought this punishment upon themselves.

Too frequently, we fear, young men regard the sacred union of marriage as merely a safe and easy means of indulging their appetites. If they carry out such an idea, they may discover too late the magnitude of their folly.

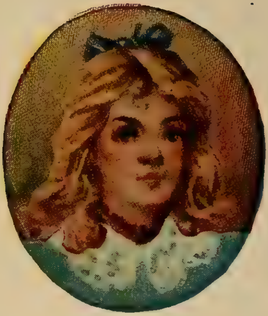
Illicit Love.—It is a vicious and vulgar error which pretends that the unnatural ardor, the anxiety and the sweetness of the stolen fruit, which are associated with illicit love, tend to produce a more felicitously constituted being. Illegitimate children are notorious for their mortality. The deaths among them during the first year are far greater in proportion than among the progeny of the married. Some celebrated bastards there have been, it is true, but they are the exceptions, and generally they have a taint of viciousness or of monomania running in their blood which spoils their lives.

True, a certain amount of passion is eminently desirable, and in all likelihood does beneficially affect the offspring; but here again the judicious man will always remain master of himself.

A Remedy for a Desire of Over-Indulgence.—If an unmarried man finds himself troubled with concupiscence, let him be more abstemious, and less stimulating and heating in his diet; let him take more active exercise in the open air; let him use the cold bath under proper conditions, and he will be greatly helped. But that is not all. He must have a proper chastity of mind; he must avoid lewd images and conceptions of his mind and imagination.

Let every young man's motto be: *The mind away from sexual thoughts, and the hands away from the parts.* And if a married man finds himself inclined to an excess of sexual indulgence, let him adopt the same regimen, and he will soon find that he has no reason to complain of what he calls his natural propensity. All men can be chaste in body and in mind, if they truly desire it, and if they use the right means to be so. But it is a perfect mockery to talk about our inherent and ungovernable passions, while we take every measure to deprave our instinctive propensities, and to excite our passions, and render them ungovernable and irresistible.

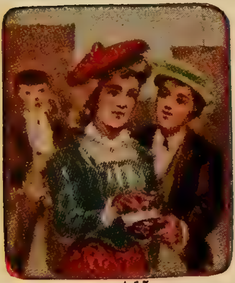
WHAT WILL HER FUTURE BE?



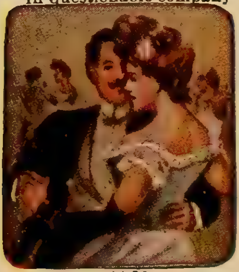
THE above bright little girl represents thousands in our homes to-day. Happy, loving and sunny-dispositioned. Parents, what responsibilities are yours! If not wisely trained and taught she may follow the course pictured to the left and bring down your gray hairs with sorrow to the grave.

At fifteen, in the company of boys of questionable character; at twenty, modesty and self-respect lost; at twenty-six, immoral and an outcast from home and society; and at forty, prematurely old. with life wrecked, hope gone, and poverty and wretchedness her lot.

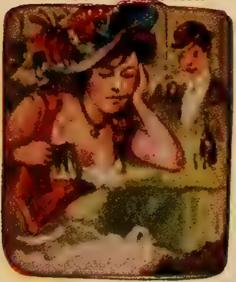
On the other hand, wisely trained, she may be for the rest of your days a source of joy and pride. At fifteen, modest (a girl's rarest quality) and studious; at twenty, victorious in her studies and pure as a sunbeam; at twenty-six, a proud mother in her own home; and at seventy, well-preserved, loved and honored.



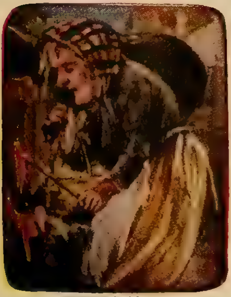
At 15
In questionable company



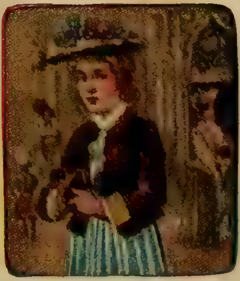
At 20
Idle and immodest.



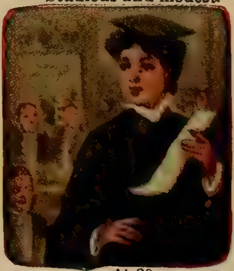
At 26
Immoral and outcast.



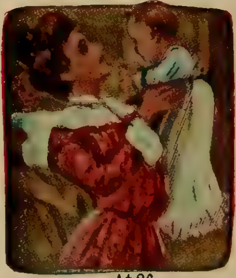
At 40
In poverty and wretchedness.



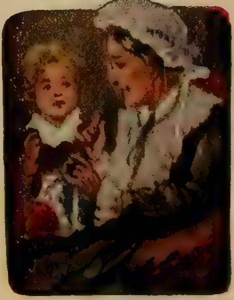
At 15
Studious and modest.



At 20
Virtuous and intelligent.



At 26
A happy mother.



At 70
An estimable grandmother.

THE WIDE AND THE NARROW WAY.

CHAPTER XV

SELF-POLLUTION

By far the worst form of venereal indulgence is self-pollution, or, as it is called by medical writers, onanism or masturbation. And it is incomparably the worst for several important reasons.

Its Evil Effects.—It is wholly unnatural, and, in every respect, does violence to nature. The mental action, and the power of the imagination on the genital organs, forcing a vital stimulation of the parts, which is reflected over the whole nervous system, are exceedingly intense and injurious; and consequently the reciprocal influences between the brain and the genital organs become extremely powerful, irresistible and destructive. The general, prolonged and rigid tension of the muscular and nervous tissues is excessively severe and violent. In short, the consentaneous effort and concentrated energy of all the powers of the human system to this single forced effect cause the most ruinous irritation, violence, exhaustion and debility to the system.

Youth Suffers Most.—All who are acquainted with the science of human life are well aware that all excesses and injuries of every kind are far more pernicious and permanent in their effects on the youthful and growing body than when all the organs and parts are completely developed, and the constitution and general economy fully and firmly established. This is the great reason why many men who fall into ruinous habits, after they are twenty-five or thirty years of age, will live on, in spite of those habits, by the virtues of a well-established and vigorous constitution, till they arrive at what we commonly call old age; while the children of the same men, following their fathers' evil example and forming those ruinous habits when very young, become early victims and fall prematurely into the grave.

Where Boys Frequently Learn.—The common notion that boys are generally ignorant in relation to this matter and that we ought not to remove that ignorance is wholly incorrect. Most boys do know about this, even if they do not practice it.

Servants and people of loose morals often become the secret teachers of children in this debasing sin. But it is more frequently communicated from boy to boy. One corrupt boy will corrupt many others.

No Second Person to Restrain.—It is a secret and solitary vice, which requires the consent of no second person, and therefore the practice has little restraint as to its frequency. The general conditions are such that the practice becomes more and more frequent.

Destroys Both Body and Mind.—It impairs the intellectual and moral faculties and debases the mind in the greatest degree, and causes the most deep and lasting regret, which sometimes rises to the most pungent remorse and despair. It would seem that God, as an instinct law in the innate moral sense, remonstrates against this filthy vice; for, however ignorant the boy may be of the moral character of the act or of the physical and mental evils which result from it; though he may never have been told that it is wrong; yet every one who is guilty of it feels an instinctive shame and deep self-loathing even in his secret solitude, after the unclean deed is done!—and that youth has made no small progress in the depravity of his moral feelings who has so silenced the dictates of natural modesty that he can, without the blush of shame, pollute himself in the presence of another, even his most intimate companion! Hence all who give themselves up to the excesses of this debasing indulgence carry about with them, continually, a consciousness of their defilement, and cherish a secret suspicion that others look upon them as debased beings. They can not meet the look of others, and especially of the female sex, with the modest boldness of conscious innocence and purity; but their eyes fall, suddenly abashed, and the glow of mingled shame and confusion comes upon their cheeks, when they meet the glance of those with whom they are conversing, or in whose company they are.

A Want of Self-Respect.—They feel none of that manly confidence and gallant spirit and chaste delight in the presence of virtuous females which stimulate young men to pursue the course of ennobling refinement and mature them for the social relations and enjoyment of life; and hence, they are often inclined, either to shun the society of females entirely or to seek such as is by no means calculated to elevate their views, or to improve their taste or morals. And if, by the kind offices of friends, they are put forward into good society, they are continually oppressed with shrinking embarrassment, which makes them feel as if they were out of their own element, and look forward to the time of retirement as the time of their release from an unpleasant situation. A want of self-respect disqualifies them for the easy and elegant courtesies which render young men interesting to the other sex; and often prevents their forming those honorable relations in life, so desirable to every virtuous heart; and frequently dooms them either to a gloomy celibacy or an early grave. This shamefacedness or unhappy quailing of the countenance, on meeting the look of others, often follows them through life; in some instances, even after they have entirely abandoned the habit, and become married men, and respectable members of society.

Desire Developed.—One of the first effects of the abuse of the genital organs is the development in them of an unhealthy degree of their peculiar sensibility—rendering them far more susceptible of excitement and establishing something like an habitual desire for indulgence. Of course, this state of things can not be carried very far without considerably affecting the whole nervous system and disturbing the functions of the several organs, more or less, according to their relative importance to the immediate welfare of the whole body.

Sexual Excess on the Nervous System.—The nervous system is the grand medium of injury to all the other tissues and substances of the body. Not only are the nerves generally debilitated and the nerves of organic life tortured into a diseased irritability and sensibility, but there is also a great deterioration and wasting of the nervous substance. The special nervous properties suffer in due proportion—varying in different persons with different peculiarities. The sense of touch becomes obtuse and less discriminating, and in some instances a numbness of the extremities and limbs, and even of the whole body, is experienced, sometimes actually reaching that state which is called numb palsy.

Effect on the Senses.—The sense of taste is equally blunted, and loses that delicate perception of agreeable qualities on which the delightful relish of proper and healthful food depends; and hence the unnatural demand for vicious culinary preparations and stimulating condiments, and the utter distaste for simple diet. The sense of smell becomes impaired, and loses its nice, discriminating power, and but faintly perceives the rich fragrance which the vegetable kingdom breathes forth for man's enjoyment. The ear grows dull and hard of hearing, and oftentimes a continual and distressing ringing, like the knell of ruined health, and the prognostic of evils yet more fearful, is the only music which occupies it.

Effect on the Sight.—But, of all the special senses, the eyes, more generally, are the greatest sufferers from venereal abuses. They become languid and dull, and lose their brightness and liveliness of expression, and assume a glassy and vacant appearance; and fall back into their sockets, and perhaps become red and inflamed, and weak and excessively sensitive, so that wind, light, etc., irritate and distress them. The sight becomes feeble, obscure, cloudy, confused, and often is entirely lost, so that utter blindness fills the rest of life with darkness and unavailing regret.

Effect on the Brain.—The brain is neither last nor least in these terrible sufferings. Associated as it is with the genital organs, it participates largely in all their direct excitements. Its extreme irritability, and its morbid sympathy with the alimentary canal, heart and lungs, as a mere animal organ, cause it not only to suffer excessively from all their irritations, but to reflect those irritations back upon the same organs, and throughout the whole system, mental and physical.

Doctors Differ.—There have been, unfortunately, many wretched books put forth upon this topic filled with overdrawn pictures of its result, and written merely for the purpose of drawing the unwary into the nets of unscrupulous charlatans. There is also a wide diversity of opinion among skilful physicians themselves as to its consequences. Some treat the whole matter lightly, saying that a large proportion of boys and young men abuse themselves thus without serious or lasting injury, and hold, therefore, that any special warning is uncalled for. On the other hand, the large majority of practitioners are convinced that not only occasionally, but frequently, the results are disastrous in the extreme.

INNOCENT CHILDHOOD.

Quotations from Noted Physicians.—"I could speak of the many wrecks of high intellectual attainments, and the foul blot which has been made on the virgin page of youth, of shocks from which the youth's system will never, in my opinion, be able to rally, of maladies engendered which no after course of treatment can altogether cure, as the consequences of this habit."

"I would not exaggerate this matter or imply that those who have occasionally gone astray are necessarily incurably diseased, or their souls irretrievably lost. But I do consider that the effect upon the constitution is detrimental in the extreme. Enfeebling to the body, enfeebling to the mind, the incarnation of selfishness, hardly the person exists who does not know from experience or from observation its blighting effects."

"The deleterious, the sometimes appalling, consequences of this vice upon the health, the constitution, the mind itself, are some of the common matters of medical observation. The victims of it should know what these consequences are; for to be acquainted with the tremendous evils it entails may assist them in the work of resistance."

"Nothing is more certain than that continued self-abuse will produce an enervation of nervous element, which, if the exhausting vice be continued, passes into degeneration and actual destruction thereof."

"I myself have seen many young men drop into premature graves from this cause alone."

"I consider this one of the most certain means which shorten and derange life."

These are the well-considered views of the ablest men in the profession of medicine.

The Other Side.—That there are physicians who treat lightly this censurable indulgence is not surprising. We could readily quote equally high authorities who see no great dangers in the use of alcohol, of opium and of illicit amours. There are many, say they, who yield to all these temptations, and yet do not obviously suffer, and ultimately reform. Is the counselor wise who therefore pooh-poohs their perils? Certainly not; for our part, we shall not, can not, follow their example.

Its Prevention.—It is in childhood, and in early boyhood, that in most cases it is commenced. But it is more frequent about the age of puberty, when the passions become stronger, and local irritations of various kinds lead the thoughts and suggest the act. In childhood, degraded companions and vicious domestics instruct in bad practices; at puberty the natural passions often prompt, without the need of bad examples. In both cases an utter ignorance of danger is present, and this is the first point that the parent and teacher must make up their minds to face.

Children Must Be Taught.—Children must be taught purity. There is no doubt that in many of them an improper tone of thought is established even before the period of puberty. For a boy to reach his teens without learning from his associates something of these matters is simply impossible.

We urge, therefore, parents and teachers not to permit a natural, and under other circumstances very proper delicacy, to restrain them from their bounden duty to warn their charges of these dangers. If wisely done, there is no risk whatever of exciting impure thoughts; and if there *is* any risk, it is infinitely less than that of leaving children in ignorance.

Reading and Dancing.—The regimen should be plain, and the imagination allowed to remain in abeyance. Sensational love stories, and even such warmly colored pictures as are presented in the Arabian Nights and the amorous poets, had better be tabooed.

The growing custom of allowing very young people of both sexes to associate at parties, balls, dances and similar amusements can not be approved on the score of health. It is nearly certain to favor precocity.

Its Cure.—Many a victim with flagging body and enfeebled will is ready to cry out: Who shall deliver me from the body of this death? Let them know for their consolation that very many men, now hale and happy, have met and conquered the tempter; that so long as the mind itself is not actually weakened, there is good hope for them; that the habit once stopped short of this point, the system recovers from its prostration with surprising rapidity; and that we come provided with many aids to strengthen their wavering purpose.

Purity of Mind.—First and most essential, is the advice that they must resolutely strive for *purity of mind.* All exciting literature, all indecent conversations, all lascivious exhibitions must be totally renounced. Next, all stimulating food and drink, and especially coffee and alcoholic beverages, must be dropped. The mind and body must both be constantly and arduously employed, the diet plain and limited, the sleep never prolonged, the bed hard, the room well ventilated, the covering light, and the habits as much broken into as practicable. Generally the temptation comes at some particular hour, or under some especial and well-known circumstances. At such times extra precautions must be taken to occupy the thoughts with serious subjects, and to destroy the old associations and opportunities.

Medical Aid.—There are also medical means which can be employed in some cases with good success, such as the administration of substances which destroy desire, and local applications, and even surgical operations which render the action physically impossible, but these means we do not propose to enter into, as they can only be properly applied by the educated physician, and do not form part of a work on hygiene.

Hopeful Cases.—When the habit is not deeply rooted, an earnest endeavor, backed by rigid observance of the rules we have laid down, will enable a youth to conquer himself and his unnatural desires.

Will Marriage Help?—Certainly marriage need not be recommended to the confirmed masturbator in the hope or expectation of curing him of his vice. He will most likely continue it afterwards, and the circumstances in which he is placed will aggravate the misery and the mischief of it. For natural intercourse he has little power or no desire, and finds no pleasure in it; the indulgence of a depraved appetite has destroyed the natural appetite. Besides, if he be not entirely impotent, what an outlook for any child begotten of such a degenerate stock! Has a being so degraded any right to curse a child with the inheritance of such a wretched descent? Far better that the vice and its consequences should die with him.

Man May Recover.—We wish most clearly to be understood that even after great excesses of this nature, a young man *may* recover perfect health, and that where the habit has been but moderately fostered, in nearly every case, by simply ceasing from it, and ceasing thinking about it, he *will* do so. Therefore there is no cause for despair or melancholy.

Bad Advice.—It is hardly credible, and yet it is true, that there are medical men of respectability who do not hesitate to advise illicit intercourse as a remedy for masturbation. In other words, they destroy two souls and bodies, under pretence of saving one! No man with Christian principle, or even with a due respect for the statutes of the commonwealth, can approve for a moment such a course as this.

Careful regulation of life according to sound hygienic rules, aided perhaps with appropriate medication which the physician can suggest, will generally effect good results.

When Everything Else Fails, then What?—When everything else fails we have no hesitation in recommending surgical treatment. This is of various kinds, from repeated blistering to that ancient operation which Latin writers tell us was practiced upon the singers of the Roman stage, called infibulation. This is of such a character as to render the act impossible or nearly so. Castration, which some have suggested, need never be resorted to. By one means or another we can say that there are exceedingly few cases, except the actually insane, who can not be broken of their habit, and considerably or wholly relieved of its after effects.

A Great Stumbling Block.—A serious obstacle in the way of such reform is the unwillingness of sufferers to ask advice for fear of disclosing their weakness. They are ashamed to tell the truth about themselves, and, when they do apply to a physician, conceal the real cause of their debility, and deny it when it is asked. To such we may say that if they can not have implicit faith in the honor as well as the skill of a medical adviser, they had better not consult him, for on their frankness his success will often depend.

CHAPTER XVI

DISEASES PECULIAR TO MEN

SECTION ONE—SPERMATORRHŒA

Men Should Know.—There are certain derangements and diseases peculiar to the male sex, concerning which every man should have some knowledge. A man should be able to detect the various affections to which he is liable in their earliest stages, not only that he may be able to himself apply simple remedies with effect, but that he may seek medical advice before the golden moments of a cure have forever flown. Some unfortunate individuals, from a natural modesty, postpone their call upon the doctor until driven to him by the pain and distress of their malady, and find, when it is too late, they are beyond the power of help.

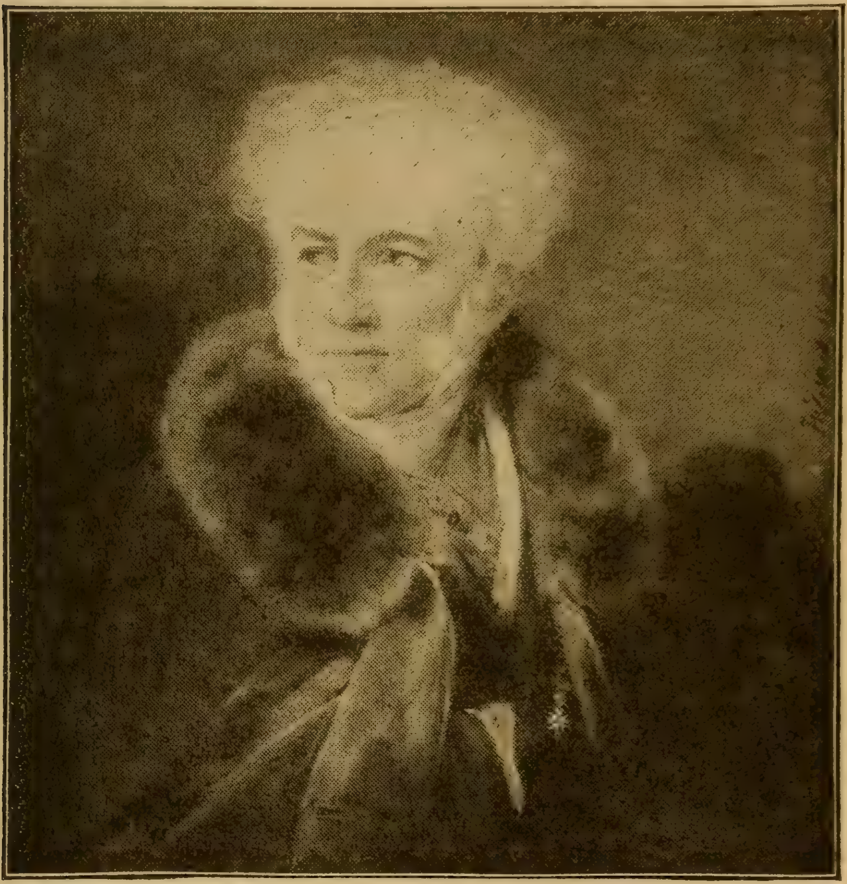
Seminal Emissions—Spermatorrhœa.—Spermatorrhœa is exceedingly disastrous in its effects upon the mind, and most destructive in its action upon the body. It destroys the vigor of youth, and is ruinous to the energy and vivacity of manhood.

We do not include under spermatorrhœa those occasional involuntary seminal emissions which occur during sleep, with individuals of sound physical and mental health. These emissions occasionally occur in every man in the very best of health, and, instead of exerting a deleterious influence, they are, on the contrary, indicative of sexual vigor. There are many young men, however, who are thrown into a state of alarm whenever an emission takes place, and imagine themselves the victim of all kinds of maladies.

Unnecessary Fear.—There is *no danger* in such discharges when moderate. They are not a sign of weakness but of strength. They are natural to every healthy young man, and rarely lead to any bad results. They do not constitute the disease spermatorrhœa, and there is no necessity for a moment's anxiety about them.

A Very Rare Disease.—Spermatorrhœa itself is a *very rare* disease, although it is undoubtedly a very serious one when it does occur. The patient can not recognize it for himself, and it is therefore useless and foolish for him to worry his mind about it. If he feels his health running down, and fears this may be the cause, let him frankly state his case to some physician in whom he has confidence, and not worry his own mind about it.

Symptoms.—The loss of the secretion takes place frequently without dreams, and on very slight provocation. It is associated with all the symptoms of an enervated nervous system, extending to a loss of memory, of mental power, and even of epilepsy and insanity. The countenance is pale and sallow; the features drawn; the eyes dull; the spirits depressed. Exercise of the functions is impracticable, or nearly so. Profound melancholy, altered sexual feeling—often an aversion to society of either sex—and impotence, may also present themselves. When a man feels one-half of the disturbances of system that spermatorrhœa brings, he should have medical advice. If it is beyond doubt a clear case of spermatorrhœa, unless there are severe general symptoms of depression, there is still nothing at which to be frightened.



HONORED AND RESPECTED.
The reward of pure and upright living.

Daily Losses.—Men have lived for years in perfect health with daily losses of the kind. An habitual escape of semen when straining at stool occurs to most men during some period of their lives without producing bad results.

What Brings It About?—Undoubtedly in most instances this is self-abuse. It is another of the bitter penalties which nature has attached to this unnatural crime. What is more, these cases are the most hopeless, simply because the victims can not break the fatal chains which bind them. The tongues of men or angels, the solemn warning of the gospel itself, are unavailing. The only choice that is left is death not very remote, or a surgical operation which absolutely prevents them handling the parts. This last resort has succeeded when everything else has failed. But such is the state of mind of most victims that they can not nerve themselves to submitting to it.

A Second Cause is Excess in Indulgence.—This may be in the marital relation, but far more frequently it occurs in the unmarried, who are more apt to indemnify themselves for long self-government by renouncing all restraint when opportunity offers. Not a few wretched old bachelors wreck themselves in this manner. This class, too, are particularly exposed to another cause which leads to the same result—secret diseases. The after-consequences of these, when neglected or ill-treated, often enough produce a weakening of the part and a loss of power to retain the secretion. So, too, the indulgence in impure imaginings and allowing the passions to become frequently excited surely bring about a similar debility with a like tendency.

Some Are Blameless.—All these are causes which imply a degraded mind and disgraceful habits. But it must be understood that this disorder may arise where no blame whatever attaches to the individual. The change in the urine which takes place when the substance termed oxalic acid is secreted in large quantities renders the fluid irritating, and may lead to spermatorrhœa. So unquestionably may stone in the bladder, ulcers and worms in the lower bowel, and some local inflammations arising from colds. Prolonged diarrhœa, neglect of cleanliness, certain skin diseases, the inordinate use of coffee, alcohol or tobacco, excessive mental application to the neglect of exercise, and a hereditary predisposition may, jointly or singly, lead to the same result, without the individual being the least in fault.

Fearlessly Seek Aid.—The judicious physician always bears this in mind, and we mention it, so that no unfounded fear, lest he should be suspected or convicted of debasing practices, may restrain the young man who fears he is suffering from this much-dreaded complaint from candidly laying bare his anxieties to his medical counselor.

And if it be these habits which are the source of his suffering, he should have no hesitation in making a frank statement, for the physician's office is as inviolable as the confessional, and he knows too well that ignorance is at the source of this habit to condemn or despise one who is, or has been, under its fell sway.

How to Prevent It.—When the water or adjacent irritations are to blame, these can promptly be remedied by any intelligent physician, and when the habits of food or drink are injurious they must be amended.

Even when there is a natural weakness which leads to overfrequent losses, very much can be accomplished by cold bathing, regular exercise, an unstimulating diet and rigid purity.

It is safe to say that this is one of those diseases which never occur in a person who submits his life to thorough hygienic regulations; and it is, therefore, a disease whose speedy extinguishment is earnestly hoped for.

For treatment of Spermatorrhœa, see Medical Department of this book.

SECTION TWO—SECRET DISEASES

Their Effects and Frequency.—A masked pestilence, a subtle infection, is stealing upon the health of the nation, poisoning its blood and shortening its life, spreading from husband to wife, from parent to offspring, from nurse to infant, working slowly but with a fatal and an inexorable certainty. This pestilence is the specific contagion of diseases which arise from impure intercourse.

Were this its only source, and did it stay its ravages with the guilty parties, we might say it is a just penalty, and calls for little sympathy. But this is not so. By the inscrutable law of God, which decrees that the sins of the father shall be visited on the children, even unto the third and fourth generation, these diseases work attainder of blood, become hereditary, and blight the offspring. They pass from the guilty to the innocent by lawful intercourse, by vaccination, by circumcision, by nursing, by utensils—even by a kiss. Hundreds of examples are recorded in medical literature, where the infection has spread by just such means. No physician of experience but has witnessed wife and children poisoned by the husband's infidelity. This is no imaginary evil we combat, nor is it any paltry or insignificant one.

Statements of a Public Document.—The following is, in part, a statement of the Board of State Charities of Massachusetts:

"With slow, painless, insidious, resistless march, it penetrates into the very marrow of the bones, and poisons the fountain of life beyond purification. All may look fair without and feel fair within, but the taint is there, and it affects the offspring. The effects of this disorder in corrupting the human stock, and predisposing offspring to disease, are more deadly than is usually believed. They are hardly exceeded by the effects of alcohol. Nature readily 'forgives unto the sons of men other sins and blasphemies wherewith soever they may blaspheme,' but this one, like 'him that blasphemeth against the Holy Spirit, hath never forgiveness, but is in danger of eternal damnation, for he hath an unclean spirit.'"

Nature of Venereal Diseases.—The contagious diseases which are propagated by the sexual relation are two in number, and are technically known as gonorrhœa and syphilis. They both commence by some local manifestation, and may not proceed further; but about as often they rapidly extend to the whole system, and produce effects upon it which are as permanent in character as those by vaccination or other specific virus.

History of Syphilis.—By far the most insidious and destructive is syphilis. This is supposed by some writers to have been unknown in Europe until about the period of the discovery of America. And not a few historians maintain that it was conveyed from the natives of the West Indies to the inhabitants of the Old World by the sailors of Columbus. Certainly, about that time it broke out with unparalleled virulence in the camps, courts and brothels of Spain, Italy, France and England. No country was willing to father it, so the English called it the "French disease;" the French, "le mal de Naples;" the Italians, "la mallattia della Spagna."

Ancient Leprosy.—There is good reason, however, to believe that neither Columbus, the Indians, nor any one of these nations was solely to blame in the matter. Probably it had lurked unrecognized and under comparatively innocent forms through all races and ages. At the epoch referred to, the massing of great armies by Francis I. and Charles V., and the increased commerce, acting together with some change in the human constitution itself, led to a violent outbreak in its most virulent form. Some have imagined that the ancient leprosy, so often referred to in the Old Testament, was one of its forms; and others, that it was derived from the glanders in the horse, transplanted into the human economy. But these theoretical views are of little public interest, and it is enough to remember that, about the year 1500, a very malignant type of the disease arose and spread with fearful rapidity, and that since that time it has been rightly deemed one of the scourges of the human race.

Gonorrhœa an Old Disease.—The other form of secret disease, gonorrhœa, was well known to the ancient Romans, and to the lawgivers of the middle ages, and old English statutes of the fourteenth century concerning brothels distinctly refer to it as "the perilous infirmitie of burnynge."

The Fool and the Wise Man.—We believe that if the public generally, and especially young men, were better aware of the dangers they incur from illicit indulgence, there would be a determined effort at reform both in municipal and personal life.

We can not think that sane, intelligent men, to say nothing of morality, would, for the gratification of an ephemeral desire, risk the well-being of their whole lives and the health of their offspring. It must be ignorance of danger which blinds them. Fools rush in where the wise men fear to tread.

Gonorrhœa and Gleet.—Gonorrhœa is conspicuously a contagious disease, and may be acquired from any person having it, simply by the contact of the discharge with the mucous membrane of the urethra. The causes, therefore, are sexual intercourse, when the disease already exists in one of the individuals. In the male, it may arise from having intercourse with a woman who has gonorrhœa. It is said that certain conditions of the natural secretions of the vagina may produce it, as it has been known to occur in the man when no disease could be recognized in the woman. But we doubt the correctness of this statement or belief, as the disease is now known to be the result of a vegetable microbe, known as a "gonococcus," singular, or "gonococci," plural. Something similar to gonorrhœa may be developed from pure women; but we suspect that no gonococci will be seen under the microscope, which is the positive test of the disease.

Effects of Gonorrhœa.—The only membranes of the body capable of taking on gonorrhœal inflammation, from contact with the pus of gonorrhœa, are the urethra, the lining membrane of the bladder, of the vagina, the eye, and the rectum.

The after-effects of gonorrhœa are much less severe than those of syphilis, and are confined wholly to the individual. It does not leave any hereditary taint. But it may bring about life-long suffering. The passage from the bladder becomes inflamed and contracted; that organ itself is very apt to partake of the inflammation, and become irritable and sensitive; spermatorrhœa and impotence with all their miseries may follow, and the whole economy may partake of the infection. An eruption on the skin and an obstinate form of rheumatism, both wholly intractable to ordinary remedies, are more common than even many physicians imagine.

Chronic Rheumatism and Gonorrhœa.—Not infrequently those troublesome chronic rheumatic complaints which annoy men in middle and advanced life are the late castigations which Nature is inflicting for early transgressions.

No Occasion for Jokes.—Ask the multiplied thousands of persons who have gone through life blind from birth, caused by gonorrhœa in their parents; ask the innocent, unsuspecting wives whose wedded lives have been one of suffering from gonorrhœa caught from their diseased husbands; ask the thousands of sufferers themselves, if there is any material from which jokes can be manufactured.

A Poisonous Partner.—The testimony of Dr. Scott is as follows: "For the ex-gonorrhœal patient who is contemplating marriage, and for the married man who has broken the pledge of fidelity and constancy implied in his solemn marriage vow, and has become infected, it is exceedingly important that they shall distinctly understand that they are, in all seriousness, *venomous* and *poisonous* and *deadly* to whatever woman they approach in the sexual relation, until pronounced safe by a skilled specialist, and that many of them never can be cured."

Effect on Wife and Children.—Dr. Scott says, further: "Death does not follow in their path at once, but countless numbers of innocent women pay for their husbands' dirty and illegitimate acts with their shipwrecked health and life. Unlike the cobra's bite, the immediate results of infection are not usually seen to be dangerous to life; but gonorrhœa is characterized often by an infinitely long period of convalescence and quiescence, so that wives and children will suffer terrible consequences, even years afterward, unless the patient be no longer a gonococcus-bearing animal."

A Strong Statement.—A famous German physician makes this bold statement: "About ninety per cent. of sterile women are married to husbands who have suffered from gonorrhœa either previous to or during married life." If this statement anywhere approaches the truth, it shows a fearful condition.

Gonorrhœa a Local Disease.—Gonorrhœa is purely a disease of the parts; hence, during the whole course of inflammation, there is but little if any constitutional disturbance. There may be some slight fever, but even this is rare. The duration of the disease is, as a rule, from three to six weeks, when the patient returns to complete health. In some cases, however, the discharge, instead of disappearing, may continue for months and even years; it is then called *glee.*.

Syphilis the Scourge.—There are three steps in the development and progress of syphilis—first, the local attack, which commences as a small ulcer on the part touched by the virus.

Second Stage.—Next in order of time are the secondary symptoms; they may show themselves in three or four weeks, and may lurk unnoticed for that many months; the poison attacks the skin and soft parts of the body, producing rashes, ulcerations, swelling of the glands, sore throat, disorders of the stomach, liver and other internal organs ; the hair loosens and falls out, the spirits are depressed, and the brain may be attacked, leading to imbecility, epilepsy or insanity. At this stage, shallow ulcers are apt to form on the tongue and just inside the lips. The discharge from them is a poison, and can convey the disease, and so can a drop of blood from the infected person.

May Be Transmitted.—During the second stage the disease is extremely contagious. Let one in this condition kiss another, or drink from a cup, or use a pipe or a spoon, and pass it to another, the danger is great that the disease will thus be transmitted. An instance is recently reported in a French medical journal, of a glass-blower who was suffering from such ulcerations. As is usual, in all respects he appeared in good health, and was received into a manufactory. In these establishments the workmen are accustomed to pass the tube through which the glass is blown, rapidly from mouth to mouth. He had been there only a few weeks when the physician to the factory was applied to for "sore mouths," and found, to his horror, that this single diseased man had infected, in the process of blowing bottles, nine others. Let such an example be a salutary warning to neatness and caution, as well as an illustration how often innocent persons can become the victims of this loathsome complaint. Let it also be an admonition to charity, and against hasty condemnation of the sufferers.

The Third Stage.—The third step in the progress of the disease is when the bones are attacked. They often enlarge, become painful, and may ultimately ulcerate. Especially between the knee and the ankle and on the head is this the case. By this time the whole body is poisoned, and an ineradicable taint is infused into the system. The constitution, though still apparently strong, is liable to give way at any moment. There is no longer the same power to repair injuries which there once was. The bones are brittle, and slow to heal.

A young man of promise was in this condition. One day, in merely attempting to pull off his boot, he snapped his thighbone, so weakened was it by the disease. For nearly two years he lay on his bed, and was only released by death. Let any one who wishes to see a picture of what a human being is who is brought to this wretched condition by his vices or his misfortunes study this subject carefully.

Consult Your Own Physician.—As a rule, these sufferers avoid telling their family physician, and prefer to consult some distant and unknown adviser. Hence they often fall into the hands of bad men, who play upon their fears, swindle them out of their money, do them no good whatever, and when all else fails to satisfy rapacious demands, levy blackmail, under threat of disclosing their condition. This course of rascality is so common that we warn all our readers against trusting their health, fortune and reputations with any man, no matter what his claims, of whom they have no better guarantee of his honor and skill than his own word therefor, and some dozens of fraudulent certificates from unknown parties.

The Sin of the Father Visited On the Children.—If there is any field where the philanthropist and reformer are most urgently demanded, it is to limit the infant mortality which prevails to such an alarming extent in our great cities. In New York, Boston and Philadelphia over one-fourth, in Cincinnati nearly one-third, of all the children born alive perish within the first year of life! What a portentous fact is this! What are the causes of this frightful mortality?

A physician of wide experience has calculated that fourth on the list of causes is hereditary syphilis. But even this statement does not at all convey an adequate idea of the effect of this disease on limiting and corrupting population.

Still-Births.—Of the infants which are still-born, the number is very great, and of these the most frequent cause of death is syphilis.

But even if the child survives its first year, the danger is not past. It may be the picture of health till five or six years of age, or to the period of puberty, or even to adult age, and then first reveal the long-concealed poison which has lurked in the system ever since its life began. That poison shows itself under a hundred protean forms.

Shocking Legacies.—It may be in eruptions on the skin and foul ulcerations, or in obstinate "colds in the head," in swelling of the bones, in a peculiar affection of the eyes leading to blindness, in brittle and loose teeth, in the symptoms of scrofula, in idiocy, in stunted growth, and in insanity. Such are the legacies which parents who have been cursed with this disease, through vice or misfortune, have to hand down to their offspring.

Laws of Transmission.—1. It is possible for a man in whose constitution the taint of disease exists, but is latent, to have perfectly sound offspring.

2. But if he has any symptoms of syphilis in any stage, it is probable, nay, almost certain, that his children will show the effects of it, although their mother remains healthy.

3. Much more generally the mother takes the disease either from the father or from the unborn child in whose body lurks the father's taint.

4. When both mother and father display unequivocal signs of the disease, the case of the child is desperate.

5. When the child is born, it is a dangerous source of infection for all around it. The nurse who applies it to her breast, the friend who kisses it, the attendants who handle it, are in imminent danger of becoming in turn victims of the loathsome disease.

6. The only person who can nurse or even touch it without danger is the mother who bore it.

Infection from Infants.—It is in this form of infantile syphilis that the disease is most easily communicated. The readiness with which syphilis in infants can be communicated by contact can not be exceeded by any other disease. It is *equally infectious with the itch itself.* A common mode by which the syphilitic infant spreads the disease is by being kissed by the girl who carries it, or by others.

If this is so—and there is no doubt of it—is it not time that the public received some warning about it? Are we to shut our mouths and see these perils to public health hourly increasing, and say nothing, do nothing?

To the Third and Fourth Generation.—Let such a child by careful attention and sound hygiene survive to adult life, and become in turn the father or mother of a family, even then unrelenting nature may not be satisfied. There are undoubted cases on record where the disease was handed down, in spite of every care and strict virtue, to the third generation, and perhaps to the fourth.

Other Diseases Originate in Syphilis.—It appears in multiplied forms of disease. A very considerable proportion of those chronic diseases of the eyes, skin, glands and bones, to which the epithet scrofulous has been applied, are really the results of inherited syphilis.

And all this misery, all these curses long drawn out, these consequences so dire to innocent generations, are the penalties of one moment of illicit pleasure, the vengeance of a violated law which knows justice, but no mercy.

A Contagious Disease.—The household utensils, cups, spoons, and the like, passed from one mouth to another, may act as the medium of contagion; the virus may be transmitted in kissing, as a minute mucous patch in the mouth of one person, so small as to be hardly perceptible, may poison any fissure on the lips of anyone with which it may come in contact.

The Poisonous Touch.—The following incident is known to the writer: A young lady of superior ability in a small city had ambitions in the direction of the dramatic art. She went to a large city in order to study and to make herself proficient for work on the stage. She succeeded for a time, but only for a short time. She returned to the small city after a year or two, and reported herself to the leading physician of her home town. He quickly saw that she was tainted with syphilis. He frankly told her the facts. She positively denied that she came to the foul disease through any improper conduct. It came out that she had been kissed (on the stage, I think) by a man, supposed to be a gentleman. There are several lessons in this, but we will let the reader find them.

Precautions.—1. Make it a rule never to sit on the seat of a water-closet so as to allow it to come in contact with the skin. Spread a paper over it by all means. If no paper is at hand, use your handkerchief and then burn it up.

2. All keepers of good hotels never put a guest in a bed whose sheets and pillow-cases have been used by another guest without washing.

3. For the same reason careful housekeepers change the bedding after a single night's use by even a guest of the family.

4. Sometimes matter forms in the eyes of a syphilitic patient, and a handkerchief is used; that handkerchief can impart

the disease to another through the eyes, or nose, or chapped lips.

Its Terrible Nature.—There is no tissue or organ of the body exempt from the ravages of general syphilis. The skin, from the crown of the head to the sole of the feet, is liable to be affected.

The whole glandular system may be involved. The mucous membranes, the appendages of the skin, the hair and the nails; the eyes, the testes and all the internal organs; the muscles, the cartilages, the bones, the nerves and the brain, are all open to its attacks; nothing is spared; yet, notwithstanding its far-reaching, all-embracing and formidable character, syphilis is to a large degree manageable, and consequently, under proper treatment, not so incurable as it is commonly regarded. Though a terrible malady, it is rarely directly fatal.

Can the Virus be Entirely Eradicated?—Although the terrible disease of syphilis is known to be manageable, the question as to whether it may be completely cured is not so well decided. Cases have been reported, however, which demonstrate pretty clearly that the virus of syphilis has been and may be completely eradicated from the system.

It is believed now by many of the best authorities that the symptoms, in the great majority of cases, disappear for good after a few years, and that, especially under proper treatment, the complete cure of syphilis may be often looked for.

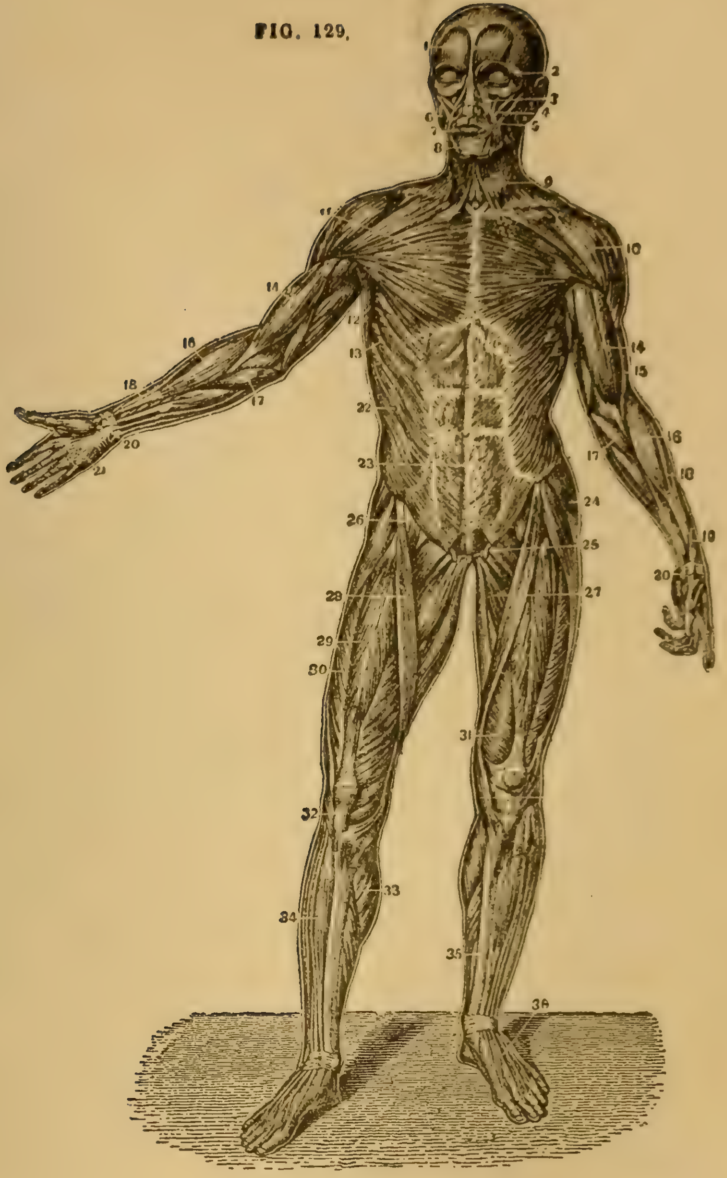
It is furthermore believed that while a patient who has once had a syphilitic chancre is liable to have general symptoms at any time during his life, yet there is a tendency for the violence of the disease and its contagious properties to disappear in time.

Can a Syphilitic Person Ever Marry?—There is one question which the physician is frequently called upon to answer, and in the reply to which are involved matters of the most stupendous importance; that is, if a patient has chancre, at what time, if ever, may he marry with safety? We may state that it is generally conceded by the best authorities of the day, that marriage is quite safe one year after the disappearance of all syphilitic symptoms. Ordinarily, syphilis ceases to relapse after this time, though there are exceptional cases where late tertiary symptoms appear after long years of absence.

It would be much better for the race if all who have in any way been tainted with this foul disease would refrain from having children. Never mind the appearance; take no chances, though you may seem to be well.

For treatment of Syphilis, see Medical Department of this book.

FIG. 129.



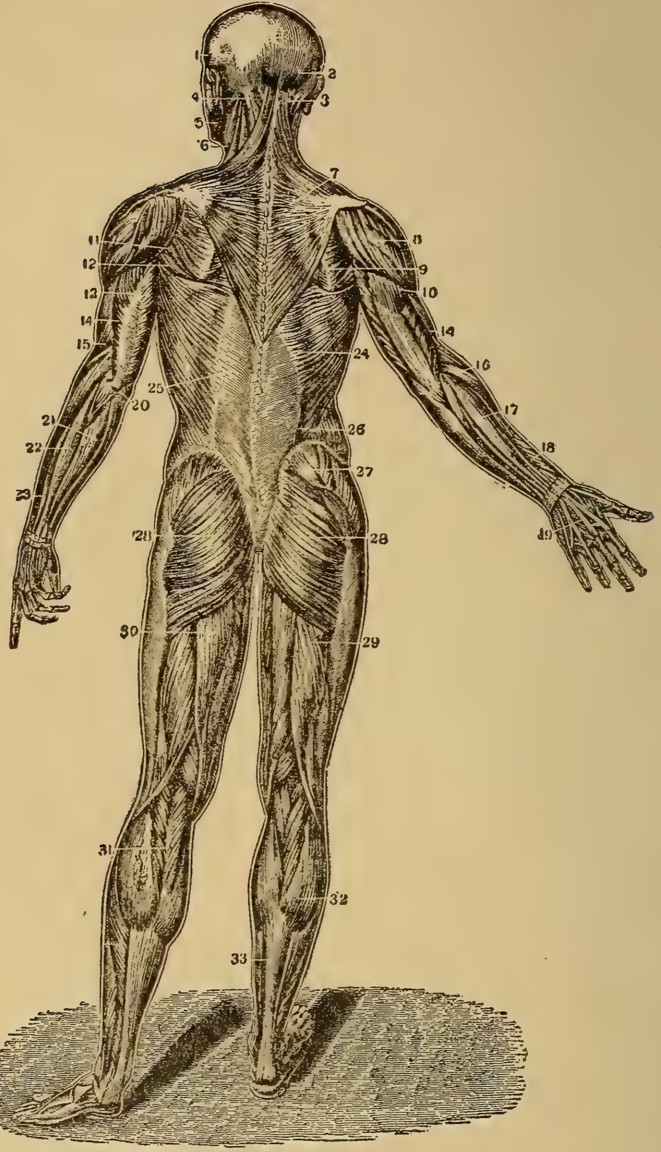
THE MUSCLES.

FIG. 129.

ANTERIOR VIEW OF THE MUSCLES OF THE BODY.

1. Frontal Bellies of the Occipito-Frontalis.
2. Orbicularis Palpebrarum.
3. Levator Labii Superioris Alæque Nasi.
4. Zygomaticus Minor.
5. Zygomaticus Major.
6. Masseter.
7. Orbicularis Oris.
8. Depressor Labii Inferioris.
9. Platysma-Myodes.
10. Deltoid.
11. Pectoralis Major.
12. Axillary portion of the Latissimus Dorsi.
13. Serratus Major Anticus.
14. Biceps Flexor Cubiti.
15. Anterior portion of the Triceps Extensor Cubiti.
16. Supinator Radii Longus.
17. Pronator Radii Teres.
18. Extensor Carpi Radialis Longior.
19. Extensor Ossis Metacarpi Pollicis.
20. Annular Ligament.
21. Palmar Fascia.
22. Obliquus Externus Abdominis.
23. Linea Alba.
24. Tensor Vaginæ Femoris.
25. Section of the Spermatic Cord.
26. Psoas Magnus.
27. Adductor Longus.
28. Sartorius.
29. Rectus Femoris.
30. Vastus Externus.
31. Vastus Internus.
32. Tendon Patellæ.
33. Gastrocnemius.
34. Tibialis Anticus.
35. Tibia.
36. Tendons of the Extensor Communis.

FIG. 130.



THE MUSCLES.

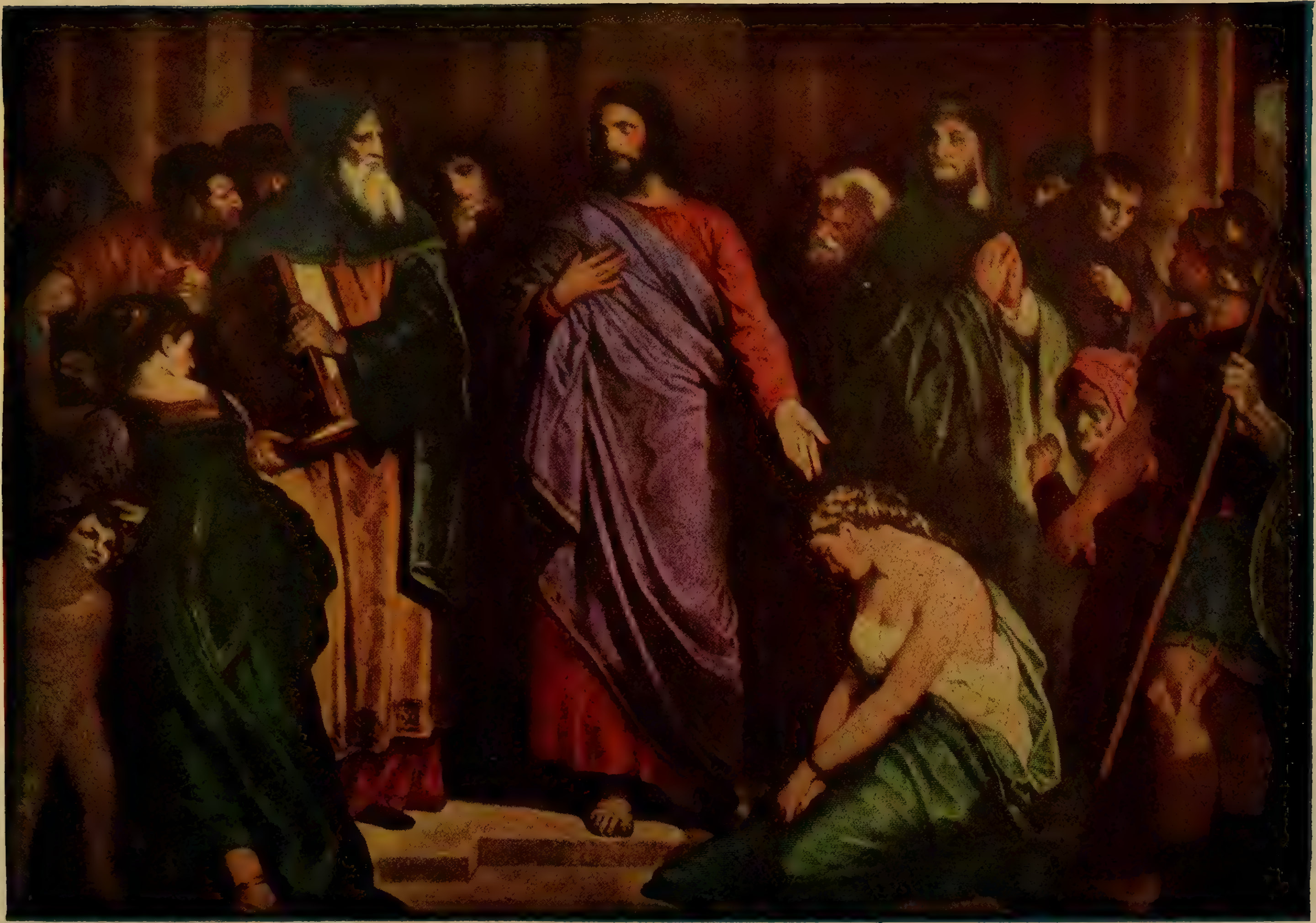
FIG. 130.

Posterior View of the Muscles of the Body.

1. Temporalis.
2. Occipital portion of the Occipito-Frontalis.
3. Complexus.
4. Splenius.
5. Masseter.
6. Sterno-Cleido-Mastoideus.
7. Trapezius.
8. Deltoid.
9. Infra-Spinatus.
10. Triceps Extensor.
11. Teres Minor.
12. Teres Major.
13. Tendinous portion of the Triceps.
14. Anterior Edge of the Triceps.
15. Supinator Radii Longus.
16. Pronator Radii Teres.
17. Extensor Communis Digitorum.
18. Extensor Ossis Metacarpi Pollicis.
19. Extensor Communis Digitorum Tendons.
20. Olecranon and Insertion of the Triceps.
21. Extensor Carpi Ulnaris.
22. Auricularis.
23. Extensor Communis.
24. Latissimus Dorsi.
25. Its Tendinous Origin.
26. Posterior part of the Obliquus Externus.
27. Gluteus Medius.
28. Gluteus Magnus.
29. Biceps Flexor Cruris.
30. Semi-Tendinosus.

31.
32. } Gastrocnemius.

33. Tendo Achillis.



"HE THAT IS WITHOUT SIN AMONG YOU, LET HIM FIRST CAST A STONE AT HER."

CHAPTER XVII

THE SOCIAL EVIL

Prostitution.—In the preceding pages we have shown the fearful results flowing from venereal diseases. But back of these diseases, is prostitution. There could be no such thing as venereal disease if there were no indiscriminate sexual intercourse. A chain must be formed in order to perpetuate these foul diseases. The husband and wife are two links, and if the connections stop here, no chain can be formed. Continence—universal sexual purity—is the only remedy that will banish these evils from the world.

The Brothel.—The brothel is the common clearing-house for all these evils. What are the effects on man himself? We already know some of its physical effects. Let us see what King Solomon said:

"The lips of a strange woman drop as an honey-comb, and her mouth is smoother than oil;

"But her end is bitter as wormwood, sharp as a two-edged sword;

"Her feet go down to death, her steps take hold on hell;

"Remove thy way far from her, and come not nigh the door of her house;

"Lest thou give thine honor unto others and thy years unto the cruel;

"Lest strangers be filled with thy wealth, and thy labors be in the house of a stranger;

"And thou mourn at the last when thy flesh and thy body are consumed." (Proverbs v.)

"Whoso is simple, let him turn in hither: and as for him that wanteth understanding, she saith to him:

"Stolen waters are sweet, and bread eaten in secret is pleasant;

"But he knoweth not that the dead are there; and that her guests are in the depths of hell." (Proverbs ix.)

Who Are the Guests?—And who are the guests? The gambler, the thief, the policy dealer, the ruffian; and with these the college student, the bank clerk, the member of the fashionable club; aye, and also the father of the family, the husband of a pure wife, the head of the firm, the member of church; all these, every night in all our great cities. Can any of these think to escape the contamination? Vain chimera. It is as certain as death. If nothing else remains, the moral stain is indelible.

Diseases Among the "Strange Women."—But often there are physical consequences more immediately troublesome than this. The prevalance of contagious disease among these women is shocking. It is safe to say that one in three or four is suffering under some communicable form of them. How fearfully is the wrath of God seen in these physical consequences! The most loathsome sight which the diseased human body, in man or woman, exhibits, the most horridly disgusting, are the living corpses in which victims of lust are putrefying to their graves.

The Motives for Life of Shame.—We ask, therefore, what is it leads so many women, usually almost necessarily young, healthy and handsome—for they must be all these to ply that trade—to open or secret sin? Some with no excuse; others, if not with excuse, yet with palliations either in their bringing up apart from Christian influences, and amid constant exposure to temptation; or, from their having been the victims of seduction; or from the extremities of destitution.

Passion Not the Motive.—It is popularly supposed among men that in the greater number of cases it is the strong passions, the insatiable lusts of these women, which lead them to take up this mode of life. Such an opinion displays entire ignorance of woman's nature and of facts. It is, probably, the rarest of all the causes which lead to public immoral life. It is true that many of these women claim and pretend to exhibit great erotic passion, but this is nearly always fictitious, adopted as an attraction, merely a "trick of the trade." The excessive frequency with which they indulge blunts their sensibility and precludes the possibility of much real feeling.

Is It Money?—Probably the most common and fatal temptation to young women is simply *money*. They can gain more, and can, consequently, dress finer, live more idly, and fare better *for a while* by this than by any other means at their command.

Is It Seduction?—Seduction and violence are constant, but not the most important sources of supply. Country girls and female immigrants are not infrequently allured to boarding-houses where scoundrels, with lying promises, or with lures of money, with the baits of vanity, with the stupefying cup, or with violence, rifle them of their all, and leave them, lost strangers in a strange land, for other harpies to devour.

Snares for the Unwary.—It is notorious to those familiar with the vices of our cities, that there are so-called "employment offices," or "intelligence offices," which are, in reality, snares for the unwary, and that the proprietor (male or female) is in connection with a house of ill-fame, and sends to such places those whom he thinks will be entrapped.

Opulent satyrs, cloyed with ordinary means of vice, and bent on provoking exhausted senses with novelty, offer large bids for youth and virtue; stimulated by them, a class of evil old women make it their business to be on the watch for giddy and vain girls, and set before them every temptation to forsake the path of chastity.

From these various sources the numbers of the lost are constantly maintained in our great cities, and constantly increased.

REFINEMENT.

Satan's Pottage.—We have failed to find a single redeeming feature in the vice of prostitution, without it be that there are women wretched enough, friendless enough, desperate enough, to be forced to this mode of life to escape starvation. And this is indeed sorry praise to give it. It only gives them a chance to sell their birthright to heaven for a mess of the devil's pottage.

What is the Remedy?—We have been casting about for a thousand devices by which we could thrust virtue down the throats of others, while ourselves continue our cakes and ale in peace. We have ever been ready to point the finger of shame at the erring sister; we have ever been eager to rush forward and cast the first stone, but have we ever pondered for a moment on the words: "He that is *without sin* among you?"

Thou Art the Man.—Ah! here we touch the heart of the matter. Would you learn the only possible method of reforming sinful women? Three words contain the secret: *Reform the men.* In them, in their illicit lusts, in their misgoverned passions, in their selfish desires, in their godless disregard of duty, in their ignorance of the wages of sin, in their want of nobleness to resist temptation, in their false notions of health, is the source of all this sin. Teach them the physiological truth that chaste continence is man's best state, morally, physically, mentally; correct the seductive error which talks of indulgence as "natural," venial, excusable; show them that man is only manful when he sees the right and does it; train them to regard *self-government* as the noblest achievement of all; educate them fearlessly in the nature and regulation of those functions which pertain to the relations of the sexes; do this, and we shall soon see that we have gained a vantage ground over against which the powers of evil can not stand.

Man Must Act.—Every great social reform must begin with the male sex; theirs it is to take the step in advance, and they must do it with self-knowledge, with intelligence, and with no false sentiment. Here, especially, they must act. The sin is wholly of their own making. All the misery, all the lost souls, all the blighting consequences present and to come, of prostitution, are chargeable solely and wholly to the uncontrolled sexual instinct of the male. What duty, then, is more imperative to the clergyman, the educator, the statesman, the enlightened philanthropist anywhere, than to study this matter?

It is quite time, therefore, that we lay aside this most mischievous and dangerous modesty, or pretended blindness, and set about some decisive measures if not to purge away, at least to limit, control and render as powerless as possible this infecting ulcer.

We can prevent the open tempting on our public streets, the fearful facility of vice which now prevails; and we can limit the spread of contagious disease.

We can require police regulations, firmly carried out, forbidding the accosting of men on the streets, indecent behavior in public and immodest dress.

We can warn and instruct, as we have been trying to do in this book.

A Warning to Young Men.—There are men of low grade of morals who justify the unmarried man in seeking the prostitute to gratify his lustful passions. The excuse is that it is a necessity of nature. The wily tempter is ever ready to suggest reasons and formulate arguments in harmony with man's desires, particularly so when those desires are debasing and would drag him down the more surely and swiftly to the pit where the tempter reigns.

But by the highest authority we have shown in other parts of this book that the sperm retained in the system, instead of being an injury, is a positive benefit, and is necessary to man's highest, most vigorous, manly attributes.

Wild Beasts Safer Companions.—One medical authority of high rank says that for himself he would prefer to take his chances to pass a night unprotected amidst wild beasts and venomous reptiles than to pass a night with harlots.

The Fall of Nations.—Bishop Warren comments as follows on I. Peter, iv., 3:

"Looked at period by period, the history of the race seems one long catastrophe. Nations rise to eminence only to rush to ruin. Of course a survey of the whole history shows a real advance, but what are the causes of such world-wide catastrophes? The Bible must certainly show these causes. They are given in verse 3:

1. Licentiousness—that is, sexual degeneracy—whereby most nations have perished. They have made a religion of debauchery and enthroned prostitutes as divinities. All vigor of manliness is sapped, all ambition enervated, all possible greatness lapsed into effeminacy.
2. Lusts. All other sorts of mere pleasures, as opposed to duties and virtues.
3. Winebibbing. It is not 'excess of wine,' as our Authorized Version has it. It is any wine drinking. The Greek is a single word, and 'winebibbing' well translates it.
4. Revelings. Furious frolics.
5. Carousings. Drinking bouts.
6. Abominable idolatries. Since the so-called gods were characterized by every lust and crime, it is not strange that their votaries should be.

That the early Christians should set themselves against all these sins at once, and worship a pure God and be pure themselves, not running into excess, surrendering self and means, made men think strange of them.

As an incentive to right living, Peter lifts the curtain and shows in the future the day of judgment. He presents the opposite virtues: (1) Live according to God; (2) be of sound mind, not insane by drink, be sober; (3) pray; (4) have ceaseless love; (5) use hospitality; (6) speak as the oracles of God.

The summary of the vices is hell; of the virtues, heaven. Anyone can choose which he will have forever."

Effects of Prostitution.—Prof. Kelly, of Johns Hopkins University, says: "To consort with prostitutes blunts a man's finer sensibilities; it lowers his respect for women; it leaves its indelible marks in disease, for, sooner or later, every man who indulges his passions unlawfully contracts disease. It is not possible for either men or women who prostitute themselves freely to escape it.

A Living Death.—"These diseases," says Prof. Kelly, "are not only the most loathsome and the most disgusting in their early manifestations, but they have the horrible characteristic of becoming latent. A man who contracts disease of this sort can never be sure that he is cured, for venereal disease is not a merciful disease like cancer, killing its victims within a certain time. Rather, it is death in life; such local lesion may occur as to destroy forever the sexual function, and the unchaste man finds that he is incapable of realizing one of the chief blessings of life—surrounding himself with a family of children."

Blasted Hopes.—It is not alone that the body is diseased by associating with harlots. The whole man is made sick; the soul is wounded; the moral character is marred; manhood can never attain to so exalted an altitude after the contamination of the harlot.

Statistics of Prostitution.—It is very difficult to obtain statistics of prostitution. It is impossible to obtain exact statistics, for this sin is committed in secret.

Dr. Foote, of New York, bears this testimony to the individual and national effects of prostitution:

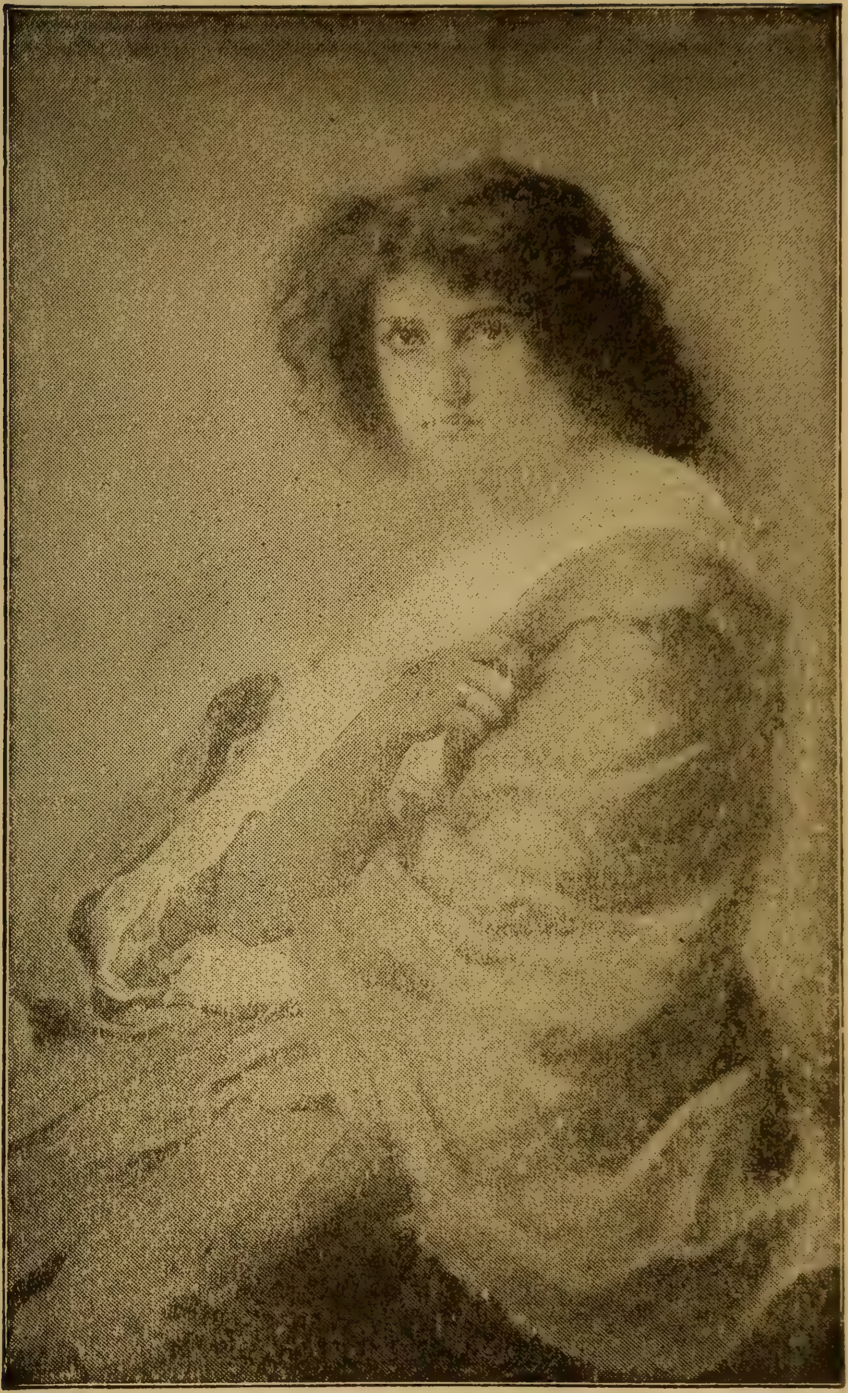
"The blood of the whole human race is becoming contaminated with venereal poison. Do you question this? Look at the fact that in the United States there are not less than 100,000 harlots, and in London alone nearly an equal number, nightly dealing out sensual pleasure and physical death to a still greater number of inconsiderate men.

Multitudes Poisoned.—It is computed that in the ten chief cities of England there are about 300,000 prostitutes. But they are not all diseased, says one. Admit that; but it is safe to infer that one-third of the whole number are, and a little exercise in simple division shows to us that the seeds of venereal poison are communicated nightly to over thirty thousand persons in our country alone, many of whom have wives or bed-companions to whom they are liable to impart the disease.

Thirty thousand males are daily infected with venereal poison in the large cities of the United States, many of whom are residents of inland towns, whither they return to spread the seed of the loathsome disorder.

In the public institutions of New York city about 10,000 cases of venereal disease are treated annually, to say nothing of those who seek the advice of their own physicians.

The reader can not fail to see from the foregoing that prosti-



HOMELESS AND FRIENDLESS.

tution is a prolific source of blood disease, and that it is rapidly converting the great fountain of life, as originally imparted to man by his Creator, into a slough of death.

Of all blood impurities, there is none which leads to such endless varieties of disease as those induced by the virus with which whoredom is inoculating the whole human family."

That Little Book.—It is said that for years past a little pamphlet of less than twenty pages—price, one dollar—professing to give prescriptions and directions for the cure of venereal diseases, has sold at the rate of twenty thousand copies per month in the United States and Canada alone. Think of it! Two hundred and forty thousand copies a year! That means two hundred and forty thousand new cases of these horrible diseases every year. And the victims who purchase this pamphlet represent but a fraction of the total contaminated each year.

Does one need to present further proof that sensuality is sapping the very foundations of national life? When cholera or smallpox threatens the land, Congress and Parliament and boards of health rush to the rescue; but this deadly plague is going on by night and by day, and we close our eyes to its widespread desolation.

More Facts and Figures.—The New York *Medical Record* contains the following facts and figures:

"1. During the last twenty-seven years that he has been practicing, Dr. Fournier has been consulted by 887 women afflicted with syphilis. Of this number 842 cases were of sexual origin, and in 45 cases, which is already a proportion of five per cent., the disease was contracted otherwise than by sexual connection. As regards the social position of the 842 cases, the author divides the patients into three categories: First, women belonging to the *demi-monde*, 366; second, married women, 220; third, women whose social position was unknown, 256. In striking out from the figures 220 a certain number of the cases of married women who evidently got the disease from other sources than their husbands, there remain 164 infected by their husbands.

"2. *Regulating Prostitution.*—Fournier asked 873 male syphilitics how they had become infected. It was found that 625 got the disease from registered, licensed and regularly examined prostitutes, 100 from working women, 24 from domestics, 24 from married women, 46 from clandestine prostitutes. The inquiry showed that the licensed prostitute was the most serious source of infection."

A Higher Motive.—We Plead for purity not only on national and patriotic grounds; not only on the grounds of self-preservation, but on still higher grounds as well.

You are somebody's child. Somebody—to-day at the old home, it may be, or in the other world—used to call you "darling," and you called her "mother." She brought you into the world through the pangs of labor; from her breast you drew the nourishment of your infant life, and she cared for you in childhood as none other could.

Another's Honor.—Perhaps, too, you know what the word *sister* means, and what the word *wife* means. Tell me, then, what is the feeling which thrills through your whole being like a shock of electricity, and sends the blood galloping through your veins, as you think of the bare possibility of some man violating the honor of your mother or sister or wife. I know what your thought is. You say: "I would shoot him down like a dog."

SOMEBODY'S DARLINGS.

But you are the man who deserves to be shot down like a dog when you violate the honor of another man's mother or sister or wife.

Once I Was Pure.—This is not all. Every poor, fallen woman, ready to sell her soul for money and jewelry and gay attire, is somebody's child. Some mother pressed her to her heart, and dandled her on her knee, and, perchance, some man of God sprinkled baptismal water on her brow.

You do not stay to think of the anguish of that poor soul when the short career of shame is ended, and the past haunts the memory like a dismal ghost, and the future rises up with its fire of retribution, and the broken heart sobs out its pitiful wailings:

> "Once I was pure as the snow, but I fell—
> Fell like a snowflake from heaven to hell;
> Fell to be trampled as filth in the street,
> Fell to be scoffed, to be spit on and beat;
> Pleading, cursing, dreading to die;
> Selling my soul to whoever would buy;
> Dealing in shame for a morsel of bread;
> Hating the living and fearing the dead.
> Merciful God! have I fallen so low?
> And yet I was once like the beautiful snow."

You do not think of all these things, else you would say: Let who will contribute to a ruin so appalling, no hot passion shall make me accessory to an end like that.

CHAPTER XVIII

CLIMACTERIC PERIOD

Seven-Year Periods.—Man's sexual life is divided up into years in groups of seven. Not, of course, absolutely unvarying, but sufficiently accurate to prove the law. From birth to 14 years of age, *childhood;* from 14 to 21, *adolescence;* from 21 to 49, the age of greatest virility in man, the child-bearing period of woman.

Change of Life in Woman.—Somewhere between 42 and 49, averaging about 45 years of age, all women experience a physical change, known as the "change of life." At this time the menses cease to flow and woman becomes barren; the child-bearing period has come to a close. The average time of probable motherhood is about 28 years; of possible motherhood, about 35 years.

Change of Life in Man.—The change of life in man comes from ten to fifteen years later than in woman. Most men do not know, or at least do not realize, that man experiences a change similar to that of woman. The change is not so marked as in woman and is more gradual than in the other sex. Man may still become a father, but there are physical changes that are serious, and unless a man is very careful serious results may result from over-indulgence or overwork, or want of care in method of life.

New Lease of Life.—After the change, which may take from one to three years to accomplish, both in men and women, there is a new lease of life to both mother and father, provided, of course, all has gone well. In both cases it may be the beginning of a decline which leads to decrepit old age or to death.

Life insurance companies are more ready to insure a woman *after* the change of life than immediately before it.

A Husband's Solicitude.—During this critical time, when certain organs are resting from their labor and physiological changes are going on, the husband should be very watchful and careful of his wife's health and comfort. This change may mark the continuation of a life of misery, whose end is the grave; or, it may be the beginning of a glorious afternoon of life, whose western skies shall be all aglow with the radiant tints of a beautiful sunset. Undue care, severe labor, anxiety, mental worry should all be banished until robust health is fully restored. This is a time when solicitous care on the part of the husband is repaid many fold.

Dr. Sperry's Testimony.—Dr. Lyman Sperry, in his *Husband and Wife*, says: "Men do undergo a decided change near the threshold of old age, and sometimes it is just as marked as that which takes place in women; but, as a rule, the loss of sexual appetite and power experienced by males is more gradual and not nearly so definite as the change experienced by most females.

"Some students of the phenomenon of sexual decline in males call it a 'change of life' and assert that it is attended with almost as much physical disaster as the corresponding epoch in the physical life of woman."

Old Men Complain.—Dr. Acton says: "It is somewhat curious to notice the *naivetè* exhibited by elderly gentlemen. Patients from sixty to eighty come to me, complaining that they are not sexually so energetic as they were; that the sexual act is no longer attended with the same degree of pleasure as formerly. They grumble because desire does not come on so frequently, or because, when they attempt the act, they no longer experience perfect erection.

"It can not be concealed that there are persons moving in good society (although fortunately they are few) who come to the surgeon ostensibly for other reasons, but virtually under the belief that he will prescribe something that will excite their flagging powers. I tell them that it is a better guarantee for their life and happiness to remain invalids as they are than to have their organs strengthened and then to kill themselves by inches through fresh fits of excitement. I need hardly say that every upright practitioner refuses to be an accomplice in any way whatever to mere excitement. Libertinage in the elderly man is a crime. This language held to elderly men is good in more ways than one. It proves to them that their weakened condition depends upon themselves and not upon a medicine or a physician.

"The impunity with which some elderly men continue the practice of sexual intercourse is certainly surprising: still, abuse or excess, whichever we may term it, must sooner or later tell its tale.

"Many of the affections of the brain, under which elderly persons suffer, and to which a certain proportion annually succumb, are caused by excesses committed at a time when the enfeebled powers are unequal to supporting them."

Crime Against Nature.—Blessed should the old man deem himself who can put up with calmness, happiness and reason instead of craving after those senile accessions of delirium too often the parents of regret and remorse without end. The chastisement of those who love the sex too much is to love too long. Is Nature silent?

It is a crime against her—a crime for which she may some day claim a deep revenge. Why, then, not listen to the voice of

Wisdom—for those who sit at her feet, and listen to her awful counsels, shall be delivered from strong passion, and many sore straits, and much folly?

Let the elderly man, then, pause and reflect, that a human sacrifice, either male or female, is generally bound to the horns of the altar that sanctifies such marriages. In the present state of society, with our manners, passions, miseries, *man does not always die—he sometimes destroys himself.*

No Fool Like an Old Fool.—Unfortunately there are those who, either more infatuated, more helplessly drifting on the tide of passion, or more depraved, use all their endeavors to realize desires which it is no longer possible to satisfy, unless by a forced compliance of the organs. Not only has the energy—the superfluous vitality of early days—disappeared, but the organic power of reproduction is nearly obliterated. The imagination, polluted with impurities, seeks pleasures which reason and good sense repudiate. There are instances of debauched and shameless old age which, deficient in vital resources, strives to supply their place by fictitious excitement: a kind of brutish lasciviousness, that is ever the more cruelly punished by nature, from the fact that the immediately ensuing debility is in direct proportion to the forced stimulation which has preceded it.

There are such old libertines who are constantly seeking after the means of revivifying their withered, used-up organism, as if that were possible without imminent danger. The law of nature is without appeal. To submit to it is the result of great good judgment, and the reward is speedy. But submission is no invariable rule, and persons of prudence and chastity have but faint conception of the devices to evade it, of the folly, caprice, luxury, immodesty, the monstrous lewdness and indescribable saturnalia of the senses which are the result.

Nevertheless, let it be remarked, it is seldom—very seldom—that punishment comes at once; old age which disease changes every day into decrepitute—often sudden death, and death that lingers for years, a consequence of cruel infirmities—prove the justice of Nature.

A Moral Basis for Reform.—It may, perhaps, be thought singular to suggest a moral based upon such vile practices as the above, but allusion to them may not be without benefit to those beginning life; let those persons take warning who with an active imagination once enter upon a career of vice, and dream that at a certain spot they can arrest their progress.

It is an old tale, and often told, that, although the slope of criminality be easy and gradual, he who launches himself on such a course, will acquire, as he goes, velocity and force, until at last he can not be stayed.

The Painter's Skill.—The following quotation may apply not only to sensuality, but to any and all of those practices which bind the individual in chains of sin:

"Persons not accustomed to examine the motives of their actions, to reckon up the countless nails that rivet the chains of habit, or perhaps being bound by none so obdurate as those I have confessed to, may recoil from this as from an overcharged picture. But what short of such a bondage is it?

"I have seen a print after Correggio in which three female figures are ministering to a man who sits fast bound at the root of a tree. *Sensuality* is soothing him, *evil habit* is nailing him to a branch, and *repugnance* at the same instant of time is applying a snake to his side. In his face is feeble delight, the recollection of the past, rather than the perception of present pleasures, languid enjoyment of evil with utter imbecility to good, a Sybaritic effeminacy, a submission to bondage, the spring of the will gone down like a broken clock, the sin and the suffering co-instantaneous or the latter forerunning the former, remorse preceding action—all this represented in one point of time. When I saw this I admired the wonderful skill of the painter. But when I went away, I wept, because I thought of my own condition.

"Of *that* there is no hope that it should ever change. The waters have gone over me. But out of the black depths, could I be heard, I would cry to all those who have but set a foot in the perilous flood. Could the youth look into my desolation, and be made to understand what a dreary thing it is when a man shall feel himself going down a precipice with open eyes and passive will—to see his destruction and to have no power to stop it, and yet to feel it all the way emanating from himself; to perceive all goodness emptied out of him, and yet not be able to forget a time when it was otherwise; to bear about with him the spectacle of his own self-ruin; could he feel the body of death out of which I cry hourly with feebler and feebler outcry to be delivered."

There is a terrible truthfulness in this description of the depths of long-indulged evil habit. There is. perhaps, only one lower depth; that in which *no* remorse, *no* longing after past self-restraint or purity is felt any more.

CHAPTER XIX

DIETETICS

SECTION ONE—FOODS

Attention to Diet in Disease.—Diet is of the greatest importance in the treatment of all forms of diseases. In some few diseases it takes precedence of even the treatment by drugs.

Composition of the Human Body.—The body is formed of many substances, which are composed chiefly of the four elementary substances, *carbon*, *oxygen*, *hydrogen* and *nitrogen*, combined with very much smaller quantities of other elements, such as sulphur, phosphorus and the like. In order to keep the body in health and well nourished, all of these elements must be present in the food. The following table gives at a glance the most convenient form of classification:

1. Organic	Nitrogenous, or	1. Albuminates or Proteids	Flesh formers.
	Non-nitrogenous	2. Fats or Hydrocarbons	Heat formers.
		3. Starch and sugar or Carbohydrates	
2. Inorganic	. .	4. Water.	
	. .	5. Salts.	

Firstly, they are divided according to whether they belong to the organic or inorganic substances. The organic are divided into those which are composed of carbon, oxygen and hydrogen —(1) combined with nitrogen, and (2) without it, called respectively the nitrogenous and non-nitrogenous. The non-nitrogenous are again placed in two classes—the fats or hydrocarbons and the starches and sugars, called the carbohydrates. The inorganic substances are placed in two divisions, the first containing water only, and the second various salts. There are thus five distinct classes or kinds of food—1, nitrogenous foods; 2, fats or hydrocarbons; 3, starches and sugars, or carbohydrates; 4, water; and 5, salts.

Food Forming Tissues and Organs.—The nitrogenous foods or albuminates include all those in which nitrogen forms an important part; they chiefly consist of animal substances. The most important is albumen, which is found in its purest form as the white of egg, and also in other forms, as fibrin, or the chief part of lean meat; caseine, or the curd of milk; and gluten, which forms a large part of grains and vegetables, being the one nitrogenous food obtained from the vegetable kingdom.

All these substances are very similar in composition, pass into the body by digestion in the same form, are useful for the same purposes as regards nutrition, and may therefore for the future be considered as identical. All of them become solid or coagulated by the action of acids, and by exposure to temperatures of 180° F. or over; and their purpose in the body is to form and nourish the various tissues and organs, such as the muscles and nervous structures, and on this account they have been called flesh-formers; but it has been proved that they also assist in forming the fat of the body, maintain the heat of the blood and produce force.

Heat and Force Producing Foods.—The fats, or hydrocarbons, include all fatty substances, such as the fat of meat, the butter and cream of milk, and the oils produced by the vegetable kingdom. Their chief uses are the production of heat and maintenance of the body temperature, and also the production of force. They form a special structure or tissue of the body, which gives to it its smooth and rounded outline, serves to retain the animal heat, and makes the various movements easy and free from friction.

The sugars and starches are produced almost entirely by the vegetable kingdom, in which they are found in great abundance. The former are found in three chief forms—grape, cane and milk sugar; while starch is found in almost all vegetable substances, especially the various forms of grain. The special uses of this class of food are to produce heat and force in the body, and to some extent to form fat; but their power of producing fat is not so great as that of the hydrocarbons.

Inorganic Foods.—Water is one of the most essential ingredients of food, and is required in large quantities. It is taken in the form of drink and with other foods, most of the ordinary articles of diet containing a very large quantity. Its uses are to dissolve the food and carry it from one part of the body to another; to carry off waste products, to moisten the tissues, to equalize the body temperature by evaporation, and to assist in the general nutrition.

The salts which are chiefly needed for the organism consist of common salt or chloride of sodium, and salts of potash, lime, iron and many other substances. They are introduced combined with other foods naturally, or as table salt. They are present in all the tissues of the body, and aid in the absorption and transference throughout the system of the organic ingredients of the food.

Amount of Food Required.—By experiments and general observations, it is found that a healthy man of average size and weight will require in this country, while doing a moderate amount of work, in order to keep the body in health and free from wasting, about twenty-three ounces of food in the four and twenty hours. The following table shows the weight of each variety of food necessary, and it must be understood that the amounts here stated are of food entirely free from all water.

DRY FOOD REQUIRED DAILY.

	Amounts. Ounces avoirdupois.	Relative Proportions.
Nitrogenous food	4.587	1
Fats or Hydrocarbons	2.964	0.6 nearly.
Starches and Sugars or Carbohydrates	14.257	3
Salts	1.058	0.2
Total water-free food	22.866	

Milk, the Typical Food.—Milk may be looked upon as a typical food; it is capable of sustaining life in itself, and contains a certain proportion of each of the five classes into which foods have been divided. It is supplied by nature for the nourishment, development and growth of the human infant and of the young of many animals, and may well, therefore, be taken as our guide in studying the varieties of food. The composition of milk is as follows:—

	Cow's Milk.	Human Milk.
Water	87½	86½
Curd or caseine (Albuminates)	3½	2
Butter or fat (Hydrocarbons)	3½	4
Sugar of Milk (Carbohydrates)	4½	7
Ash (Salts)	1	½
	100	100

Cooking Foods.—Why do we cook food?

First, cooking makes food more pleasant to the eye, more agreeable to the taste and more digestible to the stomach.

Second, it divides the food into small particles and dilutes it with water, thus aiding mastication and digestion.

Third, it destroys any disease germs which may be present in food.

Fourth, it removes unpleasant taste.

When starch is cooked the cellulose coat is softened, the granule swells and bursts, and the starch is exposed and can be freely acted upon by the salivary and other fluids which convert it into soluble and easily absorbed sugar. This is the reason for boiling potatoes and the like. A properly boiled potato is "mealy" because the starch cells have been broken up.

Cooking Meats.—Heat when first applied to meat makes its fibers contract, and squeezes out some of its juice from the superficial portion. This becomes coagulated, as it contains albumen, and thus closes up the pores on the surface and retains the juice in the meat. The internal parts are cooked by the juices becoming heated and turned to steam, a sort of internal steaming process being carried on. Well-cooked meat should therefore be full of gravy. To roast it scientifically, it should be exposed first to a hot fire, that the surface may be acted on rapidly before the juices escape, and it should then be moved to a distance and be allowed to cook itself by its own steam. In boiling, the same principles should be carried out. The meat should be placed directly into boiling water, which not only prevents the juices escaping but also insures that no water shall soak into the meat and dilute the juices. The boiling temperature should be maintained for five or ten minutes, and then the remainder of the cooking process should be carried out at a lower temperature of about 160° to 170° F.

Cooking Eggs.—To boil or poach an egg, it should be placed in boiling water, and then the saucepan should be immediately taken off and placed where it can be left for five or even ten minutes before the egg is removed. In this way the white of the egg is made soft and creamy, and never becomes tough, hard and indigestible, as it would if left in boiling water. The egg cools the water in contact with it, and the interior is never raised to the boiling point.

Salting Meat.—The effect of salting meat is very similar to that of heat. It contracts the fiber and squeezes out the juices; the salt may penetrate so deeply that as much as half the juices may be driven out, and the meat become much less nutritious than when fresh, and more tasteless. Salting, however, preserves the meat by preventing decay.

Times Taken in the Digestion of Various Foods.—Much depends, in the treatment of disease by diet, upon whether the various articles of food are digestible or the reverse. Those foods which remain for a long time in the stomach must be looked upon as difficult to digest; while those that are rapidly dissolved and broken up and passed on by the stomach into the intestines as easy to digest. The following is a list of the most common articles of diet and the time they take in digestion:

Food.	Time in Stomach.
Tripe	1 hours.
Lamb	2½ "
Mutton, Boiled	3 "
" Roast	3¼ "
Beef, Boiled, Salt	2¾ "
" Roast	3½ "
Beef-steak, Broiled	3 "
Veal, Broiled	4 "
" Fried	4½ "
Pork, Salt, Boiled	4½ "
" Roasted	5¼ "
Pig, Sucking, Roast	2½ "
Suet, Beef, Boiled	5 "
Sausage, Fresh, Boiled	3¼ "
Liver, Broiled	2 "
Hashed Meat and Vegetables	2½ "
Turnips, Boiled	3½ "
Cabbage, "	4½ "
Milk, "	2 "
" Raw	2¼ "
Butter, Melted	3½ "
Cheese, Raw	3½ "
Eggs, Whipped, Raw	1½ "
Goose, Roast	2½ hours
Turkey, "	2½ "
Chicken, Fricassee	2¾ "
Fowl, Roast or Boiled	4 "
Duck, "	4 "
Venison, Broiled	1½ "
Apple, Dumpling	3 "
Rice, Boiled	1 "
Sago, "	1¾ "
Tapioca, Boiled	2 "
Bread	3½ "
Custard, Baked	2¾ "
Sponge Cake Baked	2½ "
Potatoes, Baked	2½ "
" Boiled	3½ "
Parsnips, "	2½ "
Carrots, "	3¼ "
Eggs, Soft "	3 "
" Hard "	3½ "
Trout, Fried	1½ "
Salmon, Boiled	4 "
Oysters, Raw	3 "
" Cooked	3½ "

Deficiency of Certain Articles of Food.—Scurvy is produced by a deficiency for any length of time of fresh vegetables in the diet. The disease used to carry off thousands; half the crews of ships that went for long voyages were destroyed by this disease; now it is quite a rarity. Since its cause has been recognized, the disease only occurs accidentally during war, famine, or shipwreck, or as the result of carelessness.

Eating Too Much.—It has been most conclusively proved by the data collected regarding those who have lived to the age of one hundred years and over, that those who live long are those who have lived frugally, they were mostly spare people who both ate and drank sparingly, and maintained their organs in healthy condition by never overworking them.

In many persons who habitually eat too much, symptoms of indigestion are set up with a general feeling of lassitude and want of energy, both muscular and mental; headaches are common, especially across the forehead; constipation or diarrhea, light colored urine, drowsiness, skin-eruptions (especially the disease called acne) and weakness of the heart's action, show themselves.

Warnings of the injury that is being done to the body generally occur in the form of frequent bilious attacks or sick headaches; and at the same time the individual may rapidly increase in weight and put on fat.

Improper Food.—Improper food is also a fruitful cause of disease, and by the term improper is meant that which is unsuitable to particular individuals.

Poisonous foods may be taken by accident or from custom. Foods may be poisonous simply as the result of decomposition; from the presence of parasites, animal or vegetable; from the animal's having eaten poison before being killed, or from diseased condition by accident or otherwise.

Spoiled Food.—Rotten or over-ripe vegetables and green or over-ripe fruits, when eaten, especially in hot weather, may produce severe attacks of diarrhea and vomiting.

Tainted meat is eaten by some persons in preference to fresh, and as the result of disinfectant properties of the gastric juice, may be eaten with impunity. In China rotten eggs are looked upon as a luxury. Occasionally these foods cause severe symptoms of poisoning, such as diarrhea and nervous troubles, and sometimes even death has resulted from eating bad German sausage. The symptoms are severe stomach-ache, vomiting, diarrhea and great collapse.

Some kinds of fish, especially in warm weather, may produce many severe symptoms of poisoning; those which most often act thus are the common shell-fish, lobsters, crabs and mussels. The *symptoms* are: severe nettlerash, affecting perhaps the whole body and causing swelling of the tongue, throat and eyelids, and irritation of the digestive organs, with vomiting and diarrhea.

How to Tell Good Meat.—It is wonderful how much we have to depend upon our butcher in the matter of meat. If he chooses, he can send meat far from good, and yet which only those experienced in such things can recognize as unsatisfactory. Good fresh meat *is red*—not pale pink nor deep purple; it is *marbled in appearance*, *firm and elastic* to the touch, scarcely moistening the fingers, has a *slight* and not unpleasant odor, and when exposed to the air for a day or two should neither become dry on the surface nor wet and sodden. *Fresh* meat turns a piece of *blue* litmus paper *red*—that is, it is acid; but *unsound meat is alkaline or neutral.* Much of the meat that is sold in our markets comes from diseased animals, but cooking, when thoroughly carried out, makes this usually fit for food.

SECTION TWO—DIETING

Diet for Indigestion.—Constipation may be the cause of this complaint, and should always be corrected without delay. It acts injuriously by interfering with the quick removal of waste products, which irritate the bowels and cause flatulency.

It may also be the result of sluggishness of the liver and insufficient formation of bile. Dietetic treatment is more permanently beneficial and satisfactory than that by drugs; foods should be eaten which produce a good deal of waste material, which will encourage the movement of the intestines. Vegetables, brown bread, oatmeal porridge, and ripe and cooked fruit are useful; a glass of water, hot or cold, drunk the first thing on rising in the morning, has both a tonic and aperient effect upon the bowels.

Diet for Dyspepsia.—All the food eaten by a sufferer from dyspepsia should be simple and easily digested. The meals should be served punctually, and at suitable intervals, never less than four or five hours apart. They should consist of only two or three courses, one of which, at the chief meal, should be a hot joint of butcher's meat. All rich, fatty, highly flavored dishes should be avoided; all raw vegetables are difficult to digest and require careful mastication, salads, cucumbers and pickles being particularly objectionable. New bread is bad, and so is pastry. Most sweet dishes are liable to cause trouble by setting up acidity and fermentation.

Diet for Diarrhea.—Diarrhea is sometimes caused, especially in children, by errors of diet; if it is not caused it is sure to be kept up and increased by the food unless great care is taken in the choice of suitable articles. Complete abstinence from food for a short period is sometimes sufficient by itself to check an attack; the diet must always be limited to those articles which are bland, easily digested, and leave but little solid residue. Everything should be taken in small quantity, and tepid or cold, but never hot; hot food immediately excites the action of the intestinal muscles and is followed rapidly by an evacuation.

Starchy food of all sorts can be permitted—arrowroot, sago, rice, tapioca, flour, toast and well-baked biscuits; they may be taken in milk, or in weak chicken and mutton broths and beef tea. Care should be taken in administering meat broths and extracts, for if they are given in too concentrated a form, or in too large a quantity, they are sure to aggravate the diarrhea. Simple drinks are always useful—iced water, rice, barley or arrowroot water, skimmed milk, white of egg in water or milk.

A compound made by adding the whites of four eggs to one and three-quarter pints of water and flavoring with sugar and orange-flower water, or lime-water mixed with milk, is often beneficial.

In Chronic Diarrhea dietetic treatment will do much; the patient's strength is being exhausted by the constant loss from the bowel, and our aim should be to administer those foods which are almost entirely digested and taken up into the stomach, and which leave very little to pass into and irritate the lower bowel.

For this purpose an exclusively animal diet has been recommended, taken predigested—lightly cooked or raw mutton, lean veal, chicken, pigeon and game are allowed—pork forbidden.

Here is a preparation for children: Take raw, lean beef or mutton and mince or pound in a mortar, squeeze through a sieve, and give either alone or flavored with salt, sugar, currant-jelly; or, it may be mixed with thin gravy, soup or chocolate made with water. Children like it. The only drink that should be allowed with it is the water and white of egg mixture.

Gout.—In health all the food is digested and burnt up, or oxidized, and much of the waste material thus formed is carried off by the kidneys. Urea, as the waste material is called, is easily soluble in water, and gives the kidneys very little trouble in its removal ; but in those who suffer from gout, urea is formed in much smaller quantities, and its place is taken by uric acid, which is far less soluble, and gives much greater labor to the kidneys ; it is, therefore, liable to collect in the body, and, combining with the soda contained in the blood, forms urate of soda. This salt produces the chalk-stones of gout and is deposited in the joints and other parts of the body, at which time an attack of gout occurs.

It is of the first importance, therefore, that a gouty person's diet should consist only of just as much food as can be used up and got rid of, without accumulation of uric acid.

Diet for Gout.—The diet for this purpose must be curtailed in almost every particular. The individual, in order to keep free from his enemy, has to be most abstemious. He must limit his diet in the nitrogenous, sweet, starchy and fatty foods; he must never indulge his appetite, but eat just enough to maintain his strength and repair the waste that is taking place in the body. There is no doubt that the more active exercise he takes, the larger can be the quantity of food; if he lives an indoor, sedentary life, the amount of food will have to be very small.

As animal foods produce the chief part of the urea, they should receive first attention. Mutton is the most suitable, beef next, but pork, veal, dry or salted meats, and all rich made dishes should be avoided; white fish, chicken, fowl, game, eggs and a little butter are allowed. Foods containing starch and sugar should be taken in moderation.

Bread—but not when new, toast, rusks, biscuits and vegetables which are easily digested are permissible in small quantities and when very thoroughly cooked, as potatoes, greens, peas and beans; celery is said to be actually useful. Very sweet fruits are objectionable, but strawberries, grapes and oranges may be eaten, pears and apples if cooked, and lemon-juice is good. Pastry is entirely forbidden. Tea and coffee may be indulged in in moderation, and cocoa when made from the nibs; milk is harmless, if it can be digested, and water may be drunk *ad libitum;* the more water that is taken the better; it washes out the body and clears away the waste; it should not, however, be drunk with meals, but a tumbler of hot or cold water night and morning, and one-half an hour before dinner can be recommended.

Diet for Bright's Disease.—Chronic Bright's disease, or inflammation of the kidney, is occasionally produced by errors of diet, as by excess of alcoholic stimulants, or of nitrogenous foods. One of its most important symptoms is the loss through the kidneys of albumen, the most valuable nutritive constituent of the blood. The purpose of treatment by diet is to keep the body nourished without throwing any particular strain upon the kidneys.

The best diet that can be taken is one formed exclusively of milk, and some medical men prefer skimmed milk, or buttermilk; almost an unlimited quantity can be taken, and it is found that, if the stomach will bear it, not only can patients be kept alive, but that they will thrive and the symptoms improve; six or seven pints a day are required, to get through which amount it will be necessary to take about a tumblerful every hour. Milk both nourishes the body and increases the flow of urine. If, however, this diet is more than can be borne, a less limited one must be attempted. Light food of all sorts must be allowed; farinaceous and peptonized foods, chicken, game and so on. But no beef and the like should be taken, because of the urea produced. Neither should any alcoholic drinks of any kind be taken, as these drinks act as direct irritants to the kidneys.

Diet for Diabetes.—Diabetes entails a great drain upon the body by the constant loss of sugar through the kidneys. We, therefore, have to furnish a good supply of nourishment to the body by a generous diet, while as far as possible we must withhold all those articles from which sugar can be produced. Starch and cane and grape sugar must be forbidden, with all substances which contain them.

Meat of all kinds is allowed. If it were possible to feed the patient upon an exclusively meat diet, the problem would be solved. But few could bear this for any length of time. The rule is that all green vegetables or green parts of vegetables may be eaten. Ripe sweet fruits are, as a rule, unsuitable; but if cooked while green and unripe, they may be eaten. However, fruits are so universally beneficial to the human system, it is better, unless it be an extremely severe case, to let the patient eat of most of the ordinary fruits.

Cheese, cream, butter and other fatty articles may be used. Green pickles are useful. It is possible in some cases, to make the diet too severe. Some physicians recommend a more liberal diet. Tea and coffee are allowed with cream or milk, and saccharine instead of sugar. One of the difficulties of saccharine, with some patients, is that they use too much. It takes but an infinitely small amount to sweeten a cup of coffee.

A fresh egg beaten up in tea or coffee makes a good substitute for milk. Thirst is relieved by cold tea with slices of lemon, by rinsing the mouth with iced water, sucking ice, or sipping phosphoric acid, twenty to thirty drops to the ounce of water. Cream and soda-water makes a pleasant drink. On the forbidden list are all sweet wines, most brandies, rum, gin, champagne, sweet beer, cider, porter and stout. It is doubtful if alcohol in any form should be allowed.

Gluten Bread.—The great difficulty is to find something to take the place of bread. The best substitute which can be obtained is gluten bread, which is made from flour out of which nearly all the starch has been washed. It is prepared in several forms—rolls, slices, biscuits, soft loaves, etc.; but the best are tough, and the patients soon tire of it. Some forms, too, keep good for only a few days. Soya loaves is another special preparation. Bran bread is also sold; it is useful in constipation, but may have the effect of producing looseness of the bowels. There are also a variety of cakes and biscuits made on purpose for diabetics, such as almond cakes and biscuits, cocoanut biscuits, diabetic rusks, etc. Much ingenuity has been expended in the preparation of these foods and many delicacies and novelties are constantly being introduced in the form of flavoring essences, savories, soups and potted meats of all kinds, so that by the exercise of a little forethought and with the help of a good cook, it is possible to obtain a considerable amount of variety, and a patient in comfortable circumstances need not fare at all badly.

We may complete this description by adding a list of the things which are allowed and forbidden in diabetes.

Foods Allowed and Forbidden Diabetes Patients.—

Animal Foods.

ALLOWED.	FORBIDDEN.
Butcher's Meat of all kinds.	Liver.
Ham, Bacon and Tongue.	Oysters.
Poultry and Game.	
Fish of all kinds.	
Meat Extracts and Soups (if not thickened with Starch).	
Jellies without Sugar.	
Eggs prepared in any way.	
Cheese, Butter, Cream.	

Vegetable Foods.

ALLOWED.	FORBIDDEN.
Diabetic substitutes for Bread.	Sugar, Treacle.
" Biscuits.	Bread.
Saccharine in Tabloids or Elixir.	Oatmeal.
Cabbage, Endive, Spinach.	Biscuits.
Broccoli, Brussels Sprouts.	Sago, Tapioca.
Lettuce, Water-Cress, Cucumbers.	Rice and Arrowroot.
Mustard and Cress, Spring Onions.	Macaroni, Vermicelli.
Nuts (except Chestnuts).	Pastry.
	Farinaceous Puddings.
	Potatoes, Carrots.
	Parsnips, Beans, Peas.
	Sweet and Preserved Fruits.

Drinks.

ALLOWED.	FORBIDDEN.
Tea, Coffee, Cocoa from nibs.	Sweet and Sparkling Wines.
Water.	Malt Liquors.
Soda, Vichy, Apollinaris Waters.	Cider, Lemonade, Ginger-Beer.
Fresh Lemon-juice.	Liqueurs.
	Cocoas and Chocolates.
	Sweet Spirits.

Delirium Tremens.—Delirium tremens may prove fatal, but a majority of cases end in recovery; each successive attack, however, becomes more dangerous and more liable to prove fatal.

Treatment.—In the treatment, the two points which call for special attention are—first, to obtain sleep, and secondly, to give food. The patient should be placed in a darkened, quiet room, with some suitable person in charge, and everything should be done which will encourage sleep.

Some narcotic drug must be administered. A teaspoonful of the preparation called Bromidia may be given every two hours until sleep is obtained, or ten grains of hydrate of chloral may be given every half hour or hour until the same result is gained. Opium and morphia may be employed—twenty drops of laudanum, or half a grain of morphia every two hours—the patient, of course, never being roused from sleep to take his medicine. From the large and frequently repeated doses here recommended, it is evident that there is much difficulty in getting anyone suffering from this disease under their influence. Nourishment should be given, if possible, before sleep is obtained; or it must be ready and administered directly he awakes, when he will be weak and exhausted. It should be given in small quantities, at frequent intervals, and in a fluid and highly nutritious form. Milk, arrowroot, beef-tea, broth and eggs are suitable.

Occasionally it is necessary to allow small quantities of the drink that the patient has been accustomed to; but this should never be done unless the prostration is extreme. So important is the administration of food, that some doctors would even allow a beef-steak and glass of porter, if only they could be taken.

Sometimes it becomes necessary to restrain the patient by force—to fix him down in bed with a sheet across his chest, or tie his hands and feet to the bedstead, or to hold him in bed by the strength of two or three male attendants. This, however, should always be avoided if possible, and is not often required, a firm and competent attendant being usually able to exercise sufficient control.

Obesity.—Obesity is the excessive accumulation of fat under the skin and around the various internal organs of the body to such an extent as to produce symptoms of disease and to exercise prejudicial influence on the health, usefulness and comfort of the sufferer. *Corpulence* may be used in the same sense, or restricted to the condition of great stoutness which is short of becoming a disease.

Causes of Obesity.—There are many causes of obesity. Hereditary tendency is common. Women are liable to obesity to a far greater extent than men, and age is a predisposing cause, also. Children are usually fatter than adults, and during the later years of adult life, corpulence is common; while during the active years of early adult life, and in old age, the fat disappears.

Food is undoubtedly the most important. If the diet contains an excessive amount of fatty and oily substances, if very large quantities of sugar and starchy foods are taken, or if any form of food is indulged in to a greater extent than is required for the maintenance of the body, the superfluous material will very likely be stored away in the form of fat. We must from this point of view look upon an individual as overeating, when he takes more food than is required to keep the body in health and at a uniform weight. Some people can live on very little and lay by fat on a most moderate diet; others eat enormous quantities, and never have any to spare to produce fat.

Drink is also of much importance; for, as a rule, fat people drink very large quantities of fluid. Beer is very fattening, especially if taken liberally, and many other forms of alcoholic drink act in the same way.

Mode of Life.—An easy-going, quiet, sedentry life aids in the laying-on of fat. Exercise, by using up the nutritive material, acts in the opposite way; and, unfortunately, the corpulent are by force of circumstances somewhat incapable of taking much active exercise. Ease of mind, repose of body, excessive sleep encourage, whilst anxiety, worry, hard work and wear and tear prevent the occurrence of this condition.

What are the symptoms and objections to this form of disease? The sufferers are slow, inactive in body and mind; the slightest exertion, as going up-stairs, causes palpitation and shortness of breath. They are liable to catch cold, to diarrhea and indigestion, and if they are attacked by acute disease they bear it very badly, as they have little reserve strength. Weak heart, from the formation of large quantities of fat in its substance, is a common trouble, and gout is easily acquired. Added to these symptoms of disease is the constant annoyance due to their unwieldiness: they can not stoop even to do up their boots, they can not hurry to catch a train, and they are subjects of raillery and often of great inconvenience to their fellow-travelers.

The Treatment must be carried out with care, so that while the fat is removed the health and strength may not suffer; those with diseased hearts or kidneys are dangerous subjects to meddle with. Alteration of diet is the one thing needful. Many drugs have been vaunted as cures of obesity, but they have all been found useless upon trial. In all cases it is necessary to reduce the amount of food taken; the patient must be in earnest, and must be prepared to suffer a good deal of inconvenience, and even hunger in the process of thinning. The meat, or nitrogenous foods should be increased, but all articles of diet which contain fats, sugar or starch should be much diminished in quantity, or quite given up.

For example, at breakfast he would allow five or six ounces of meat or fish, or a couple of eggs, a little biscuit or dry toast (six or seven ounces of solids in all) and a breakfastcupful of tea or coffee without either milk or sugar (nine ounces of liquid).

At dinner (mid-day), fish or meat (not salmon, herrings, eels, pork or veal), poultry or game (five or six ounces), vegetables (except potatoes, parsnips, beets, turnips or carrots), a slice of dry toast, cooked fruit without sugar, the meal consisting of ten to twelve ounces of solids and less than half a pint of liquids.

At supper, cooked fruit (two or three ounces), a rusk or two, and a cup of tea without milk or sugar.

Diet for Fevers.—Diet for fevers should be plentiful, but given in very easily digested form. Beef tea, mutton broth, chicken or veal broth, arrowroot, gruel, eggs, milk and jellies are the most common articles for the diet of fever patients, and recipes for the preparation of most of these will be found at the end of this chapter. Vermicelli may be added to the beef-tea; rice or bits of toast to the mutton broth; eggs in custard or beaten up with milk; and blanc-mange made of isinglass, or ground rice. Beef-tea is a valuable food, and very widely used, but it must be properly prepared to be nutritious; it lessens the waste of tissue, supplies salts and other substances, and is a good stimulant. Beef-tea may be given partially digested, or peptonized, or Armour's nutrient wine of beef peptone can be procured, the meat in which is predigested.

Starchy foods are always of value in fever, and can usually be digested; oatmeal gruel and arrowroot form staple articles of invalid fare, and should always be made with milk, if it can be digested. Malted milk is light and easily borne by the stomach. Milk must always be one of the chief forms of nourishment in illness, but it should be given with great care; it is liable to disagree by the formation of lumps of curd, which are hard and irritating to the digestive organs. This objection may be met by adding barley water, or soda-water in equal quantity, or lime water—two tablespoonfuls to a tumbler—or the milk may be peptonized.

Great thirst is one of the most trying symptoms of fever. The drinks must not be given in large draughts, or indigestion or diarrhea will be produced, but in small quantities, often and cold. The addition of ice makes them more refreshing. Iced water, small pieces of ice to suck, lemonade, soda-water, barley-water and lemon, toast and water, cold weak tea, linseed tea, and milk and soda-water are all useful for this purpose.

Diet in Typhoid Fever.—There is probably no disease in which attention to diet is of greater importance, or in which more lives are lost by ignorance or carelessness in the feeding. The disease consists in an ulcerated or raw condition of the intestines, which sometimes spreads to such a depth as to make a hole through the bowel and allow its contents to escape into the cavity of the peritoneum, which is sure to result in very severe illness and most probably in death. If any articles of solid food are given they will irritate the sore spots, increasing the symptoms and the liability to perforate the bowels. There have been many cases in which an attack of typhoid fever progressing most favorably has suddenly terminated fatally through the mistaken kindness or wilful conduct of friends or nurses in giving solid food contrary to the direct orders of the physician in attendance. Plumcake, oranges, grapes, bread and jam, and a long list of similar articles have been given, and produced this dire result. The diet must be given in a fluid and easily digested form, so as to allow the bowel as complete rest as possible; milk should form the chief or only food, and many a case of typhoid can be fed from beginning to end with milk only. It must be given in small quantities at frequent intervals, and as much as three or four pints in the twenty-four hours. It, however, the curd is found to be undigested and to pass away in the motions—a reason for carefully watching the appearance of the stools—the milk must be

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given mixed with soda-water, or Vichy water, or peptonized milk. Small quantities of beef-tea or beef essence, chicken and mutton broth may be given, but if they are found to increase the diarrhea, they must be at once stopped. Eggs may be used, but never cooked; they should be given raw, beaten up with boiling water or broth.

The great thirst which is usually present in typhoid fever will require the various simple drinks mentioned for fevers in general.

The patient is very anxious during convalescence to be allowed to eat solid food, but the safest rule is to allow not a mouthful of *solid* food to pass his lips until his temperature has remained normal for a week. Even then food should be given with extreme care. Bread-crumbs soaked in beef-tea, custards and jellies, eggs lightly cooked, boiled fish, chicken, and finally meat, would be the right order.

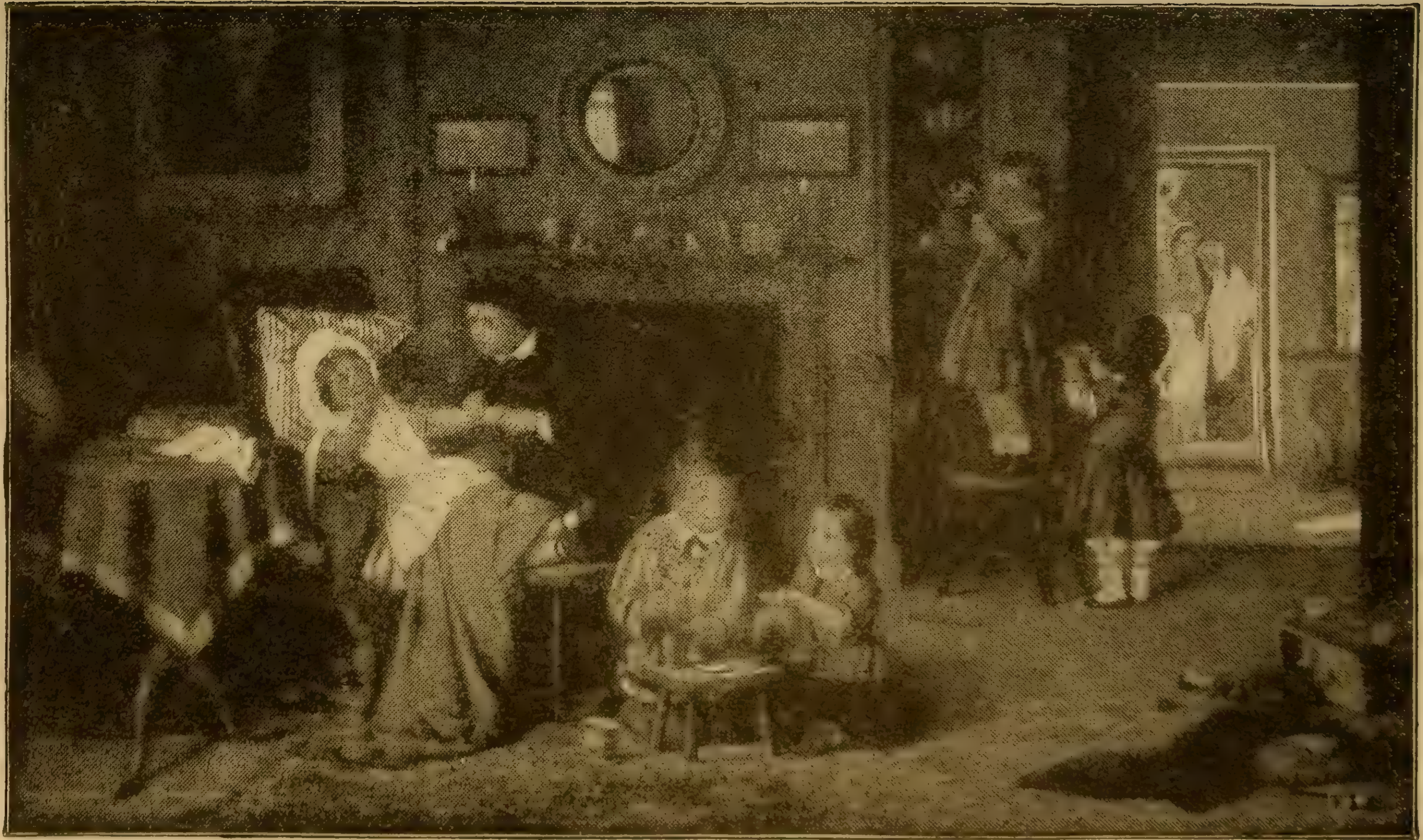
SECTION THREE—PEPTONIZED FOODS

Peptonized and Malted Foods.—For those suffering from very severe indigestion or extreme debility it is often of great advantage to give the stomach rest, and the patient easily absorbed nourishment, by partially digesting the food outside the body, and the following are some of the most useful foods for that purpose:

Peptonized Milk.—Dilute a pint of milk with a quarter of a pint of water, boil half of it, and when boiling add the other half, which will bring it to the required temperature (140° F.); add two teaspoonfuls of liquor pancreaticus and ten grains of bicarbonate of soda, pour into a covered jug, and stand in a warm place near the fire or under a "cosey." At the end of an hour and a half, boil for a minute or two. The food is then ready. The last boiling is to prevent the digestive processes going too far and spoiling the taste; it is possible to know when it has gone far enough by tasting the food—a slight bitterness should just be perceived; the preparation is more pleasant if the milk is skimmed beforehand and the cream added to it when ready.

To Make Peptonized Gruel.—Sago, barley, pea, or lentil, may be peptonized in the following way: Boil the gruel well, and make it thick and strong; pour it into a covered jug and let stand until lukewarm; add liquor pancreaticus, one dessertspoonful to each pint of gruel; stand in warm place for two hours, then boil and strain. By this process both the starch and nitrogenous ingredients are partially digested; the gruel becomes thinner, but does not get bitter, unless it has been made with milk.

Peptonized Milk-gruel.—Make a thick gruel, and add to it while boiling an equal quantity of cold milk. Add, for each pint, two or three teaspoonfuls of liquor pancreaticus and ten grains of bicarbonate of soda. Keep warm for one hour and a



PLAYING AT DOCTOR

half, then boil and strain. If bitter, too much liquor pancreaticus has been added.

Peptonized Soups, Jellies and Blanc-manges.—Soups may be peptonized in two ways: Add an equal quantity of "stock" to peptonized gruel or peptonized milk-gruel; or use peptonized gruel, thin and watery, instead of water, to make soups from shins of beef, and the like.

To make jellies, add gelatine or isinglass to hot peptonized gruel, and flavor to taste.

Blanc-mange may be made in a similar way with peptonized milk, and cream added. The gruel or milk must be completely peptonized and boiled before being used, or the jellies will not set.

Peptonized Beef-tea.—Mix one pound of finely minced lean beef with a pint of water, add ten grains of bicarbonate of soda. Simmer for one and a half hours in a covered saucepan. Pour off the beef-tea thus made into a covered jug. Beat up the meat left into a pulp with a spoon and put it in the jug also; when it is cool enough to drink, add one tablespoonful of liquor pancreaticus, and stir well. Put in warm place for two hours, stirring occasionally. Boil for two or three minutes and strain; add salt. The beef-tea is now ready.

Beef-tea (1).—Half pound of gravy beef, half pint of cold water, quarter teaspoonful of salt. Choose good gravy beef, such as steak or topside. Remove the fat and skin, cut into thin strips, and shred across with a sharp knife; or it may be passed through a mincing machine. Put the shredded meat, cold water and salt into a saucepan, and, if possible, let it stand for fifteen minutes to soak. Commence to heat slowly; stir gently all the time. The juice will come out of the meat, leaving it white. Cook gently until the liquid turns a rich red-brown. Strain through a fine wire strainer; remove any speck of grease by drawing a piece of paper across the top. It is then ready. N. B.—Beef-tea must never boil, or it will be spoiled.

Beef-tea (2).—Made in a jar. Half pound of gravy beef, half pint of cold water, quarter teaspoonful of salt. Prepare the ingredients as in the foregoing recipe, then put the shredded meat, water and salt into an earthenware jar. Cover, and tie down with paper. Place the jar in a saucepan of boiling water, and keep it simmering for three hours; the contents should be stirred from time to time. Strain carefully, and remove all trace of grease. It is then ready to serve.

Raw Beef-tea.—One ounce of raw beef, one tablespoonful of cold water, pinch of salt. Shred one ounce of lean raw beef finely with a sharp knife. Place this in a basin with the cold water and salt. Cover, and let it soak for two hours. Carefully strain and press all the juice from the meat. Serve in a colored glass. The object is to obtain as much nourishment as possible in a small quantity of liquid; and also the albumen in this beef-tea, not being cooked, digests more quickly. Make this beef-tea in small quantities, as it does not keep well. One or two teaspoonfuls to be given at a time.

Chicken Broth.—Half of a chicken, one quart of water, pepper and salt. Cut the chicken in small pieces; put it into a saucepan with cold water. Simmer gently for two or three hours; season and strain. If liked, an ounce of barley or rice may be cooked with it. A chopped onion would also make it more savory. Giblets may be used instead of a whole chicken.

Mutton Broth.—One pound scrag end of mutton, one quart of water, one dessertspoonful of pearl barley, one teaspoonful of chopped parsley, salt. Cut the mutton into small joints. Put it into a saucepan with the water. Add the salt, and bring to a boil. Skim well. Add the barley. Simmer gently for three hours, keeping it well skimmed; then shake in the parsley. If vegetable flavoring is allowed, this broth is immensely improved by the addition of an onion, carrot and turnip, cut into dice and cooked in the broth.

Chicken Cream.—Quarter pound raw chicken or veal, three-quarters of an ounce of butter, one egg, one white of egg whipped, half gill of cream. Pound the chicken in a mortar, add the whole egg and seasoning. Rub through a sieve, stir in the whipped white of egg and the cream whipped. Place in small buttered moulds, steam gently for about fifteen minutes. Serve with a nice white sauce. Pheasant or game may be cooked in this way if wished.

Arrowroot.—This may be made with either milk or water. The latter, however, would contain very little nourishment. A small dessertspoonful of arrowroot will thicken about half a pint of milk. The arrowroot should be placed first in a teacup or small basin, and should be thoroughly mixed with a small quantity of cold water until quite smooth. Then add by degrees the boiling milk, and continually stir the mixture. It may be flavored with sugar and a little nutmeg or other kind of spice, or some lemon-peel may be added.

Lemon Jelly.—Half pint of lemon-juice, one and a half pints of water, six ounces of loaf sugar, one inch of cinnamon, four cloves, two and a half ounces sheet gelatine, the rind of four lemons thinly cut, two whites of eggs and the shells. Put all these ingredients into a saucepan together; whisk until it boils. Let it stand for five minutes. Strain through a clean cloth scalded; set in a mould when clear. When it is firm, turn out.

It must always be remembered that gelatine and isinglass are of little or no value as nutrients and are simply used to stiffen jellies.

Gruel.—One tablespoonful of groats or oatmeal, two tablespoonfuls of cold water, one pint of boiling water. Mix the groats smoothly with the cold water in a basin. Pour over them the boiling water, stirring it all the time. Put it into a very clean saucepan, boil the gruel for ten minutes, keeping it well stirred. Sweeten to taste, and serve. It may be flavored with a small piece of lemon-peel, by boiling it in the gruel, or a little grated nutmeg may be put in. If fine oatmeal is used, it requires rather longer boiling.

INVALID DRINKS

Lemonade.—Peel one lemon, or more, pour a small quantity of boiling water over the peel and cover it close. Squeeze the lemon and remove the pips. Pour some boiling water upon sugar in a separate vessel. When the sugar is quite dissolved, put the juice into it, add cold water to taste; then put in enough of the peel to flavor it. The sugar should be dissolved before adding the juice.

Toast and Water.—Toast a piece of crust of bread till it is quite brown, or almost black, place it in a jug, and pour a little cold water upon it. After standing for a short time it is fit to drink.

Linseed Tea.—Put one ounce of linseed and a pint of boiling water into a jar with a cover; stand this for an hour before the fire, and then strain. It may be flavored with sugar or lemon-peel.

Barley Water.—Wash an ounce of pearl barley in cold water three or four times, or boil it for a few minutes. Then place the washed barley in a pint and a half of water, with a bit of lemon-peel and a little sugar. Allow it to simmer, stirring it constantly, until it is of a nice thickness; then strain it and add lemon-juice. If a slight flavor of lemon is preferred with a very little acid, put a slice of lemon with the barley in the water; sweeten to taste. Care must be taken not to make the drink too sweet, as it will then clog the palate and produce flatulence.

Imperial Drink.—Dissolve a drachm or a drachm and a half of cream of tartar in a pint of boiling water, and flavor with lemon-peel and sugar. When cold, it may be taken freely as a cooling drink. It acts slightly on the kidneys, increasing the flow of water through them.

Peptonized Milk.—A pint of milk, a quarter of a pint of cold water and a zymine peptonizing powder should be well stirred together, and let stand for about twenty minutes in a moderately warm place. It should then be boiled, to prevent the digestive changes; if these are allowed to go on too long a time, the drink will become bitter and disagreeable.

Nutritious Coffee.—Half ounce of ground coffee, one pint of milk. Let the coffee be freshly ground; put it into a saucepan with the milk, which should be made nearly boiling before the coffee is put in, and boil both together for three minutes; clear by pouring some of it into a cup, and then back again, and leave it on the hob for a few minutes to settle thoroughly. This coffee may be made still more nutritious by the addition of an egg well beaten and put into the coffee-cup.

CHAPTER XX

CARE OF CHILDREN

SECTION ONE—FOODS AND FEEDING

Food for Infant.—Without question the best food for an infant is that provided by nature—namely, its mother's milk. A child fed thus, so long as the mother is healthy, is more likely to thrive and grow healthy and strong, and is far less liable to cause worry and anxiety, and to suffer from the numberless little ailments of infants, than one fed in any other way.

A Happy Mother.—A lady who decides to suckle her infant must forego some of the pleasures and all of the dissipations of fashionable life. A suckling infant, however, can impart more real joy to a nursing mother than all the pleasures of so-called fashionable society are capable of bestowing.

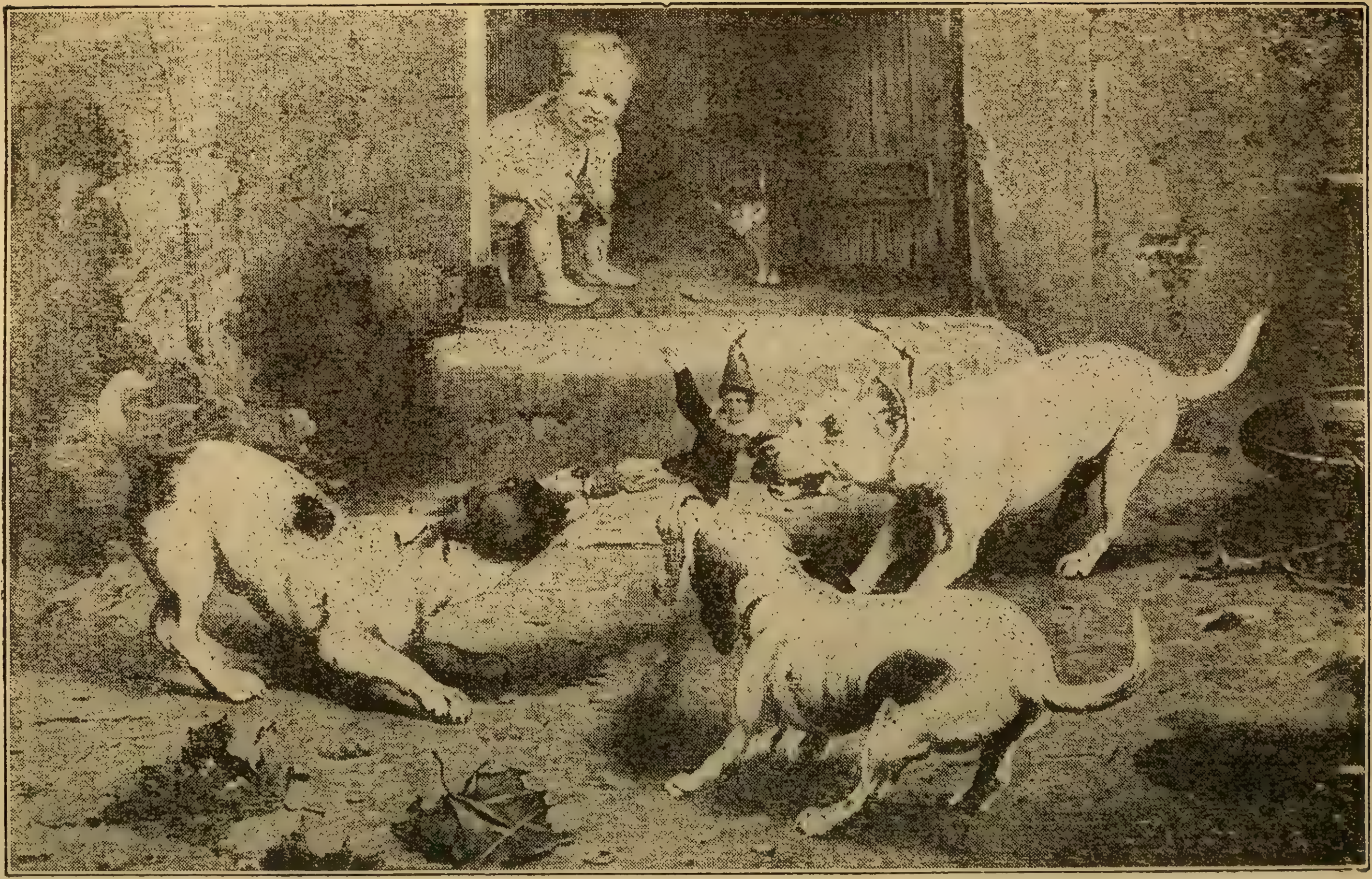
About the third or fourth day after delivery, the breasts usually become much distended with milk. In first confinements especially, there is, until the third day, but little milk. Much care and attention are now needed. At this period the milk fever, so-called, generally occurs, and from the time of delivery until the milk fever has passed away, none but the plainest and simplest food should be taken.

Care of Nipples.—Nipples, like all other parts of the body, when newly used after long rest, become sore. A month or two before the expected confinement, the mother should harden the nipples by means of thumb and fingers.

After child-birth, they may be thoroughly bathed with a sponge or soft linen rag, after which a dusting powder of starch or arrowroot may be applied.

It is advised in some cases where the breasts become hard, painful and knotty, to bathe them with warm sweet oil, or pure sweet oil and cologne water equal parts, well mixed when used. As a rule, however, the very best physician that the breasts can possibly employ is the baby, and in very many cases they need no other treatment than what they receive from this source, and unless they become actually disordered, no interference should be permitted.

Passions and Emotions are injurious to the milk, and consequently to the child. It is even believed by some that the baby inherits the temper or disposition of his mother or wet-nurse; however this may be, it is well known that sudden joy and grief



HE HAS HIS TROUBLES TOO

often disorder the bowels of the infant. It is a fortunate thing that with mothers, usually, and especially with first mothers, this is the happiest and most serene period of their existence. This cheerfulness of heart and serenity of mind are doubtless due in a great measure to a good digestion, for during the nursing period the stomach is in a sound state, and the general health is usually first class.

The Mother's Diet.—The mother should restrict herself, both in quantity and quality, to the food that agrees with her. While a good nourishing diet is required, she should not force herself to eat more than her appetite calls for. There is no occasion to be extraordinarily particular in the selection of food, yet, at the same time, there are certain articles of food gross and unwholesome, which are not desirable at any time, and especially not at this time. Her diet should be varied, embracing a wide range of both the animal and the vegetable.

There are some few articles that nearly always disagree, and should be by most nursing women, if not all, let entirely alone. Among them we may mention highly salted beef, and, for the most part, goose and duck; the indigestible cove oyster should be tabooed, likewise salt herrings and the oil-smothered sardine. To be sure, these dishes in many instances are eaten, relished and digested with no apparent ill effects; but with the majority of people at this time they certainly disagree.

Although pickles, greens and cabbages are frequently indulged in without apparent injury, with many they also disagree; the patient will therefore have to be governed by the effects produced in her own particular case.

Experience must necessarily guide the mother in the selection and use of very many articles of food; and, as in numerous other matters which concern the welfare of herself and child, she will have to depend upon her stock of common sense. If, in case of debility and depression, it is thought necessary to have recourse to stimulants, great care must be exercised, and in no instance is it really safe to indulge in or continue the use for any length of time of any kind of spirituous or malt liquors.

Feeding Infants.—Civilization or some other cause seems to produce a very large number of mothers quite incapable of feeding the babe by the natural method. Fashion, ill-health, worry and hard work add to the number.

The first two or three days the child requires hardly any food, very little milk is formed, but a thin watery fluid, which is called the "colostrum," and has a decidedly aperient action upon the bowels; on the second or third day, as the child's needs become greater, the flow of milk is established.

At first the breast should be given every two hours, using each breast alternately; the interval between the meals should be gradually increased, first to two hours and a half and then to three hours. A longer time should, however, be allowed between the times of feeding during the night, so that the mother shall have several hours consecutive sleep. By careful management the interval can be extended to from four to six hours.

Time of Feeding.—Great importance should be attached to the times of feeding; regularity of meals should be carefully observed, and two or three hours interval always allowed to elapse before the next meal. It is a very common answer to receive from a mother, when asked the question how often she feeds her baby, that she does so whenever it cries. Unfortunately, however, babies cry for many other reasons besides hunger: They may wish to explain in this way—their only means of communicating anything—that they are uncomfortable, or that they have a pin sticking into them, or that they have a stomach ache. Now, in the latter case, to feed the child may have the most unfortunate effect. The pain may be due to faulty digestion, some food remaining in and irritating the stomach. If more food is given it may for a time give relief to the pain, but this soon returns worse than ever, the addition of the food in the stomach having added to the trouble already existing and made bad worse. The proper treatment would have been to delay a meal for a short time, so as to give the stomach a rest, and an opportunity to get rid of the cause of all the trouble.

The right thing, then, is for a mother to feed her own infant, for the child's sake; it is well also for the mother; for those changes which are necessary after the birth of the child go on more satisfactorily while the mother nurses her baby.

Predigested Food—When, in spite of careful feeding, there is indigestion and fever, the temporary expedient of predigesting the milk must be tried. This is by a process of peptonizing the food by the use of pancreatin. That is, the food is made easier of digestion by the disordered stomach by being partially digested in advance of feeding it to the child. *Extractum pancreatis* is accompanied by full directions. But a still simpler method of temporarily changing the food, and giving less trouble, is to use the peptogenic milk powder, under the directions furnished with it. This powder contains, besides its food ingredients, pancreatin, bicarbonate of soda and milk sugar. It is supplied by all druggists.

Substitutes for Mother's Milk.—What foods can be employed as substitutes for the mother's milk? Cow's milk is most similar in its constitution and most easily obtained, though not quite the same composition as the mother's milk. The best plan to make cow's milk a suitable food for infants, and one which is scientifically correct, is to peptonize or partially predigest the milk.

We can not approve of the idea of peptonizing (predigesting, food constantly. Nature should be trained to perform its own processes by exercise, not relieved of all functions and enfeebled by purely artificial aid.

Sterilized Milk is valuable to those who are at a distance from the supply; it is carefully purified and freed from all germs by the application of heat, and is supplied in hermetically sealed bottles.

Patent Foods for Infants.—There are a number of patent infant foods in the market. Any of these may be used under certain circumstances. If an infant does not do well in spite of every effort to feed it, resort should be had to a healthy wet-nurse, stranger or friend, to save the life of the child. In that case it may recover and soon take prepared milk.

A distinction should be drawn between *infants'* food and *children's* food. *Infants'* food should contain *no starch*; and children's food should contain *starch*. Mothers, be cautious in this matter.

Food of the Child After Weaning.—The diet of infancy, after the period of nursing, should consist principally of good bread and milk, plainly and palatably cooked dishes made from unbolted wheat flour, apples, and nearly all kinds of fruit when in season. All kinds of animal food should be taken in the form of broths and soups.

Vegetables may also be prepared in the form of soup, and by using for the broth either beef, mutton or chicken, any of the vegetables, such as potatoes, beans, barley, rice, or tomatoes, may be used singly, to thicken it, and by being thus prepared, will be an agreeable variation in the dishes.

The young child should not, of course, be allowed pastry; and sweet cakes, if eaten at all, should be used very sparingly. Both mother and physician frequently have much difficulty in selecting the proper and most wholesome food for the child, as the digestive powers of children differ almost as much as in adult life.

SECTION TWO—DISEASES OF INFANTS

Errors in Diet.—There are many diseased conditions produced by errors in the diet of infants, either due to the quantity of food being too small or too large; or from its being of unsuitable quality. The fault in quality may be that the food is too poor in those articles which produce the bones, muscles, and other structures, in the fat, caseine or sugar of milk. Or, it may be due to the presence of indigestible material—the most common article under this head being starch.

Vomiting in infants is sometimes only the safety-valve action of the stomach, which rejects a portion of the milk taken when it is over-filled. In these cases it is never excessive, and does the child no harm. Indigestible food or sour milk, by setting up fermentation and irritation of the stomach, sometimes produces the most troublesome and even dangerous attacks of vomiting.

Diarrhea is another common result of bad feeding, and usually accompanies vomiting. Infants a few days old may be affected by it as the result of foolish fads and fancies of ignorant nurses. With the idea that the child's bowels must be "cleansed" without delay, they administer a mixture of butter and sugar, castor oil, or some other nastiness, the result of which is violent purging, followed by the diarrhea which it has set up. Again, starchy foods present themselves, and sour milk also, as causes of diarrhea. In the latter case the acidity of the stomach is much increased, fermentation set up, and the motions are generally found to contain curds of undigested milk. Such a case will soon improve if the diet is corrected and a small quantity of lime-water given after each meal. The injurious food may sometimes be the milk of the mother, whose health has suffered, whose habits have been unsatisfactory, whose diet has consisted of something injurious to the child, or whose bowels have become constipated. Here the fault in the mother must first receive treatment, and the child's indisposition will soon pass off. Whatever may be the cause, it should receive immediate attention, for, if neglected and allowed to run on for many hours, it will rapidly reduce the little patient to a condition of severe prostration.

Stomach ache would probably accompany the vomiting and diarrhea already considered, but the most frequent cause of this condition is the presence of flatulence, or "wind in the bowels," a very common ailment of infants. The child cries as if in pain, has a pained expression; his face may have a bluish hue and the mouth and eyes twitch, the extremities get cold, and the legs are constantly drawn up to the body. Such symptoms would probably be much relieved by giving a teaspoonful of dill water with two of hot water, or a little carroway, anise or peppermint water in the same dose. The next meal should be put off for a short time to give the stomach a rest, and the food carefully observed to find out anything faulty.

Constipation in an infant is almost always due to some error of diet. In those brought up at the breast it depends upon a want of richness in the milk, which should be corrected by increasing the amount of fat in the mother's food. Rich milk, cream, oatmeal porridge and stewed fruit are all useful.

In bottle-fed children, it may also be due to poverty of the milk, when benefit may be derived from adding a little cream to each meal, or two or three of the meals may have a teaspoonful of Mellin's food mixed with them. Cod-liver oil or salad oil sucked off the finger is useful for these cases.

Much starchy food given to a young child is very likely to produce constipation, and if the treatment already recommended is not sufficient to correct it, some alteration must be made in the food. If barley water is being given with the milk it may be replaced by oatmeal water.

Teething.—The first teeth may appear at any time between the third and seventh month. Some infants have been known to cut their teeth as early as the third month; and cases are known where infants were born with teeth. On the other hand, there are cases on record of infants who have never had any teeth at all.

First Dentation, or teething, commences between the third and seventh month. When the teeth have all appeared, they are twenty in number. They are usually cut in pairs, occupying a period of about two years in their coming. Hence a child at the age of two and a half years should have twenty teeth—temporary teeth, for by the time he is seven years old, they begin to loosen and fall out.

Children Are Liable to Take Cold.—Children during teething are particularly liable to take cold, and the following symptoms frequently occur as a consequence: Vomiting from catarrh of the stomach, diarrhea from catarrh of the intestines, and cough from catarrh of the bronchial tubes. For this reason it is of great importance to keep the body warm, which can most effectively be done by applying a broad flannel bandage round the stomach.

The cough requires some simple liniment rubbed on the chest, a few doses of ordinary cough mixture or one-drop doses of tincture of belladonna every hour until the cough is relieved, either in a teaspoonful of water or as a tabloid.

Certain skin diseases, such as eczema, red-gum, etc., are frequent at this time, and are generally due to some irritation of the stomach and bowels. They can be cured by appropriate treatment applied to those conditions.

Convulsions of Infants.—Convulsions, due to disorder of the nervous system, sometimes occur during teething and cause great alarm. They are often ushered in with slighter symptoms, such as squinting, twitchings, startings and restless sleep. When an attack of convulsions occurs, the child should as quickly as possible be put into a hot bath—temperature over 100°—a plan of treatment which can be advised for all the affections of teething. The bowels should be opened with a teaspoonful of castor oil, and cold should be applied to the head. The doctor should be called, as he may give relief by the inhalation of a few drops of chloroform or by lancing the gums.

Convulsions sometimes occur in infants from over-feeding and from whooping cough. Mothers are prone to stuff their little one with other food, even though having at the same time an abundance of milk; one of the consequences of this is convulsions. A child under four months, fed exclusively on mother's milk, is seldom, if ever, troubled in this manner. Convulsions attending whooping cough are usually a very serious matter, and the physician has need of all his skill to successfully treat them. The warm bath in these cases is a very important part of the treatment.

Lancing the Gums is thought by some people to be a panacea for all the ailments of teething, but it is only useful when the teeth are just through and the gums are swollen, hot and painful, and should not be practiced indiscriminately.

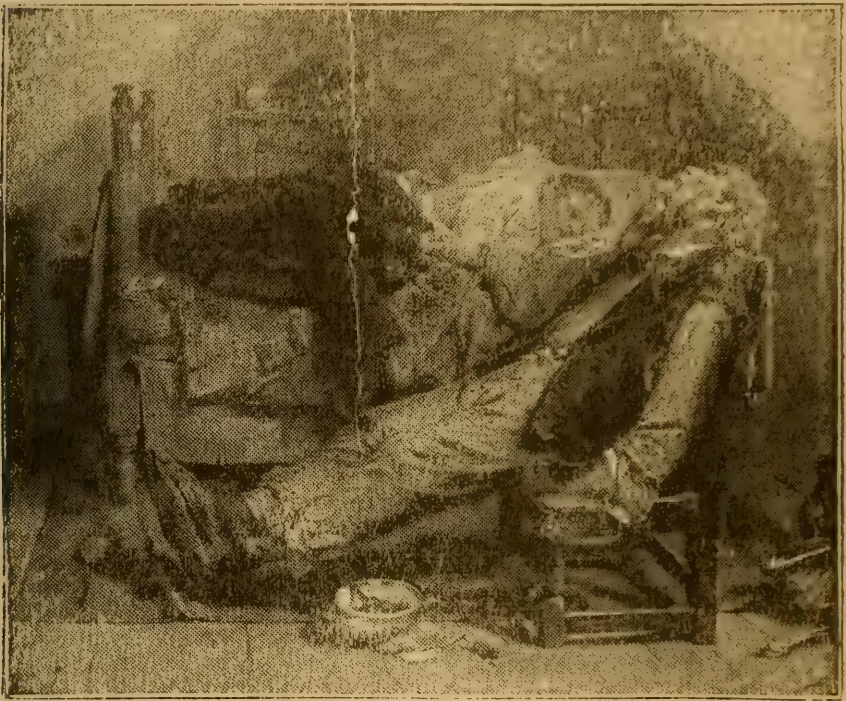
Bromide of Potash is the best drug to overcome and prevent convulsions and all nervous symptoms. Two and a half to three grains should be given every four hours mixed with a little syrup and water, or half a five-grain tabloid may be used. Rubbing the mixture onto the tender gums helps to relieve the child's sufferings.

Rest for Inflamed Stomachs.—If a man had a severe attack of cholera morbus, dyspepsia, diarrhea, constipation, colic or vomiting, would he not be disposed to stop eating and give his maltreated stomach rest for six, ten or twelve hours? Something of the same kind must be done if a baby is taken with similar disorders. The inflamed or irritated stomach must be given time to rest and heal, instead of keeping up the stuffing process under the delusion that the child will starve. It is a false and silly notion that every cry means hunger and must be quieted by additional stuffing, when perhaps the cry is caused by the pains of surfeit.

Whenever it is decided to withhold food from an infant for some hours, as a relief from some diseased condition, it is very important not to forget that it can *thirst* as well as, or more than, grown people, and give a little water frequently.

SECTION THREE—DISEASES PECULIAR TO CHILDHOOD

How to Examine the Throat.—On first looking into the mouth, nothing but the tongue and palate meeting at the back can be seen. If, however, the tongue be pressed down at the back with the handle of a spoon, flat paper-knife, or handle of a tooth-brush, and the patient at the same time takes a deep breath, the throat becomes exposed to view. From the back of the roof of the mouth hangs the curtain of the soft palate with the fleshy mass of the uvula. On either side of the palate is seen the tonsils. The use of the tonsils still remains a mystery. They are bodies rounded in shape, of about the size of a hazel-nut, covered with the soft lining of the throat and have a number of small glands which secrete a yellowish fluid. This secretion forms occasionally little yellow patches and lumps, which may cause much anxiety at first sight by being mistaken for the membrane of diphtheria.



WORN OUT.

In Scarlet Fever all the parts in the neighborhood of the tonsils, and the tonsils themselves, are swollen, red and sore;

patches of secretion form, and thick mucus is smeared over them. If sore throat occurs with sudden illness, high temperature, quick pulse and painful swelling at the angle of the jaw in a child who has not previously had scarlet fever, strong suspicions are aroused, and are very soon confirmed by the appearance of the rash.

In Diphtheria the symptoms may be severe also, and the throat has the appearance of being covered with patches of false membrane. The menbrane can not be removed easily, and if forcibly détached, causes bleeding and leaves a sore surface.

The throat in diphtheria is not as sore or painful in swallowing as a simple inflamed throat.

The Symptoms of the Simple Sore Throat of children come on suddenly, with fever and pain in swallowing. Tonsils are swollen, red and covered with thick phlegm, or have patches of yellow secretion.

Treatment of Sore Throat.—The child should be confined to bed or to his bedroom. Food should consist of milk, either warmed or iced according to fancy of the child; beef-tea, gruel, jelly and soft foods. Fomentations applied frequently to the throat, and painting the tonsils with glycerine and boric acid reduce the inflammation. Sucking black-currant lozenges or jelly, or sipping warm drinks relieve the pain.

For the fever, aconite is the best remedy: One drop, or a tabloid of one minim of the tincture in a teaspoonful of water may be given every hour for three or four doses, and then at longer intervals.

Chronic Tonsilitis, or Enlarged Tonsils.—The tonsils may occasionally be seen of such a size as to touch each other and press upon the uvula and palate. They are hard, pale colored and quite free from pain.

The expression becomes idiotic, vacant and heavy; the mouth is kept open, and on account of blocking of the nostrils at the back, no breathing takes place through the nose; even when awake there is some difficulty in breathing, and when asleep the child snores.

The voice is thick and indistinct, as if the patient were "talking through the nose." Usually the hearing is affected to some extent.

Added to all these, attacks of sore throat are constant, this part being always affected whenever a cold is taken. These children sleep heavily and restlessly, starting in their sleep and dreaming, and are often troubled with difficulty in holding their water. As a result of the imperfect way in which the air enters the lungs, they become ill-developed, with pigeon-breasts and stunted growth.

Treatment for Tonsilitis.—At first, when the condition is only beginning, painting glycerole of tannic acid over the tonsils with a brush two or three times a day, and a course of cod-liver oil and steel wine or the syrup of the iodide of iron may produce a cure; but if this treatment has been persevered in for three months without any good results, no longer delay should be allowed, but the tonsils should be removed. This operation is not a painful or dangerous one.

Adenoid Growth.—Adenoid growths at the back of the nose are very common affection of children. It consists in a very similar growth to that described as affecting the tonsils, and occurs in the small glands at the back of the nose.

The symptoms are similar to those produced by enlarged tonsils. The passages of the nose are much blocked, so that air can not be drawn through one or both nostrils; the child has a chronic "cold in the head," with a curious pinched appearance of the nostrils, snores in his sleep, speaks through his nose, and is very deaf and stupid. The deafness probably causes the stupidity, with its vacant expression and great backwardness, especially shown by the late period at which the child learns to talk. We might almost repeat the remarks made about the operation for enlarged tonsils in strongly recommending early operation for these growths.

Parents have in these cases a great responsibility; if they allow their natural reluctance to any operation upon their children to overcome their better judgment to comply with their doctor's advice, they may have to endure life-long regret and their children life-long inconvenience. There may be permanent deafness, great backwardness and much ill-health, all of which timely operation would have avoided.

Cold—Catarrh.—A cold in a child should always receive treatment at once. The symptoms are familiar to all, and depend upon what part is chiefly affected, whether it be eyes, nose, mouth, throat, air passages or digestive organs.

Treatment.—If the cold is only slight, the child should be kept at home, confined to a well warmed and ventilated room. But if it is at all bad and the fever high, he should have a hot bath and be put to bed.

The food should be chiefly given in a liquid form. Milk, beef-tea, arrowroot, and, if thirst is troublesome, lemonade (hot), barley water and linseed tea may be used. The following:

(For one dose.)
Solution of the Acetate of Ammonia, 10 drops.
Sweet Spirits of Nitre, 5 drops.
Syrup, 15 drops.
Water to the drachm.

May be given in teaspoonful doses every two or three hours to a child of three, but smaller doses to infants. If the fever be high, this may be replaced by the tincture of aconite. This is strong medicine, and should be given with care. Four drops, or four of the one-minim tabloids, should be dissolved in two tablespoonfuls of water and flavored with a little sugar and lemon-juice.

Of this a teaspoonful may be given every two hours to a child of three years or over; half of this dose for infants. After four doses the intervals should be lengthened.

False Croup, or "Child-Crowing."—False croup consists essentially of a convulsion or spasm, during which the small chink of the larynx by which all air enters the lungs becomes suddenly closed.

Symptoms.—In the milder cases the child's breathing is simply accompanied with a crowing sound. This occurs each time the breath is drawn in, causes practically no inconvenience or pain, and disappears during sleep. In other cases, however, it continues even during sleep. In the severer forms the disease comes on in attacks, which occur at any time in the day or night, and are most alarming to parents and distressing to the little patient. The child is to all appearance in fair health, and without any warning, suddenly screws up its face as if it were going to cry, holds its breath so that no air can enter the chest, gets blue in the face and lips, with swelling of the face and head. Just as the obstruction seems as if it were sufficient to cause suffocation—that is, after perhaps ten seconds or so—the air suddenly is drawn in with a rush, causing the peculiar crowing sound so characteristic of the disease, and from which it takes its name.

The attacks of crowing are often accompanied by convulsions of other parts besides the larynx. The body generally may be affected, but a far more common symptom is convulsions of the hands and feet, in which the thumbs are turned inwards across the palms and the toes bent down and stiff. Occasionally this disease occurs in the form of sudden attacks of difficulty of breathing, without any crowing sound at all, and such cases are often the more severe.

In the great majority of cases the little patients get perfectly well; but there is undoubtedly danger if the proper treatment is not at once adopted, and anxiety must be felt until the attacks of ''crowing" have quite disappeared. Deaths occasionally occur, either during an attack or as the result of general convulsions setting in.

Treatment of Croup.—During an attack, efforts must be directed to restoring the respiration as soon as possible. This may be done by dashing a sponge well wetted with cold water in the face, by patting the back, or giving a vigorous shake.

To check the attacks when they are frequent, the best drugs are bromide of potash and chloral. Of the bromide of potash five-grain tabloid may be given two or three times a day dissolved in a teaspoonful of water; and of chloral, half a five-grain tabloid in a similar way. The two drugs combined act even better; a five-grain tabloid of each dissolved in a little water may be given in two doses, making two and a half grains of each in a dose.

False Croup also occurs under other conditions and forms. Besides the attacks of difficulty of breathing, there is a noisy, hard cough and hoarseness. Children of two or three years of age are most liable to it, and the attacks occur more frequently at night. They are very alarming, but usually pass off as suddenly as they come on, and are seldom accompanied with much danger. The treatment recommended for "child-crowing" should be employed.

The Third Form of Croup.—The two preceding affections are what mothers refer to when they say that their children are very subject to "croup." It is the curious noise, perhaps, to which this term is popularly given, rather than to any definite disease.

The third form of croup is another name for acute inflammation of the larynx, or laryngitis. This is quite a distinct disease from diphtheria. Generally it is best to treat the patient as if he were suffering from diphtheria, and to carry out all the precautionary measures necessary in infectious disease.

Bronchitis.—Capillary bronchitis (broncho-pneumonia) is a form of bronchitis which is of greater frequency in children than in adults. Its name is due to the fact that the inflammation chiefly affects the smallest, or capillary air-tubes. It may occur as a complication of an ordinary attack of bronchitis.

The temperature may rise to 103° F. or more. The pulse is quick. Rigors frequently occur. The respiration may rise to fifty a minute, and the difficulty of breathing is usually very severe. Cough is always troublesome, being continuous and distressing, with occasional violent paroxysms. The face becomes blue, swollen and covered with a cold sweat, and the little patient soon passes into a most distressing and prostrate condition.

Treatment for Capillary Bronchitis.—All cases of bronchitis in children should be treated with great care, for negligence may lead to an attack of capillary bronchitis, with the serious symptoms just enumerated. Bed is, undoubtedly, the best place. The strength should be maintained by plenty of fluid nourishing food, and small quantities of stimulants given frequently. First use tr. aconite, five drops; tr. ipecac, ten drops; dissolved in half a glass of water, giving one teaspoonful every half hour to two hours. Later, then, to aid in the removal of the expectoration, the best drug is carbonate of ammonia; one of the three-grain tabloids may be dissolved in water and syrup and a little lemon-juice added to the mixture when it is taken. For a child one year old, three teaspoonfuls of water should be added to each tabloid; while for a child of six or eight, one teaspoonful would be enough. In each case the dose would be a teaspoonful given every three or four hours.

If the breathing is very hard, and the child appears to be getting suffocated by the accumulation of phlegm in the lungs, an emetic is sometimes of great use. For this purpose alum is recommended as the best drug—ten grains for a child of two years to thirty grains for one of ten years, with a teaspoonful of syrup of squills. Hot linseed and mustard poultices (one part of mustard to five of linseed) or hot fomentations should be applied frequently. The room should be well warmed and a steam kettle should be kept boiling so as to moisten the air of the room. The diet must be entirely liquid—milk diluted with barley water or soda water and a little beef-tea, gradually increased as the child improves, and solids added with great care, as the digestive organs are easily upset after such an illness.

Constipation of Children.—Constipation is one of the most frequent troubles during infancy and childhood, and it is one which should never be neglected. In a healthy infant the bowels should naturally act two or three times a day, and the motions should be semi-solid and of a yellow or orange color. In constipation there may be only one action a day, or even in two or three days.

Treatment.—It is important to bring up children in regular habits, so that the bowels may be trained to act sufficiently often and at suitable hours. By the administration of mild aperients, or better still, by attention to diet and other matters, regularity may be attained and much trouble avoided.

If a child at the breast is affected with constipation, our first attention should be directed to the food, habits and health of the mother.

If the child is being brought up on the bottle, the food should be altered. It may include too small a quantity of fat or too much starchy material. The fat may be increased by adding cream, half a teaspoonful to each bottle, or by giving a little olive oil or cod-liver oil twice a day.

Mellin's food has a slightly laxative effect, and a teaspoonful should be added to two or three of the meals until the action of the bowels becomes satisfactory.

In older children the diet may still be at fault. Pastry, salt meat and sweets should all be forbidden, and some of the following articles may be given, all of which will prove useful: Oatmeal porridge and treacle for breakfast, cooked green vegetables, stewed fruits, as prunes and figs, baked apples, and oranges. Cold morning sponging, plenty of outdoor exercise, and only moderate hours at books are the hygienic precautions necessary.

Injections of warm water or soapy water of about two or three ounces, which may contain a teaspoonful or two of olive oil or one of castor oil; a suppository formed of a piece of yellow soap or an enema of half a teaspoonful to double this amount of glycerine with a little water, are all useful and safe measures. Friction with the hand and olive oil over the abdomen in the proper direction—that is, upwards on the right and downwards on the left side—and a compress to the belly of warm water under oil-silk, give tone to the bowels.

Diarrhea in Children.—Excessive looseness of the bowels sometimes comes on in infancy, as an effort of nature to free the system of some unhealthy material which, if retained, might be productive of harm. In such cases, therefore, it is an unwise plan to give astringent medicines.

HIS MORNING STROLL.

If the motions are not too frequent, not exceeding six or eight in twenty-four hours, if there is but little griping, and the child does not exhibit signs of pain and suffering, very little, if any, interference is necessary.

If the stools become watery, frequent, double or more than double the natural number, slimy green or curdled, of an offensive odor; if there is much pain or griping, and the child is fretful and restless, medicine is required.

Treatment for Diarrhea.—It is not, however, the best plan to give any astringent medicines for a day or two, as the purging may be merely the result of something obnoxious in the system, which is being worked off in this manner.

If the baby is still at the breast, great care should be taken by the mother as to her diet. It is better not to allow the baby any artificial food for the time. A dose of castor oil given early will often effect a cure, by assisting nature to throw off whatever unhealthy material there may be in the system. In case the diarrhea persists, medicine will have to be resorted to for the purpose of checking it.

The following is admirably adapted to many cases: Castor oil, two drachms; powdered sugar and powdered gum arabic, each two drachms; tincture of opium, twenty-one drops; cinnamon water, enough to make four fluid ounces in all; dose for children, a teaspoonful every three hours. The following is successful in many cases: Bismuth and prepared chalk, each twenty grains; powdered opium, one-half grain; mix and divide into six powders; dose, one powder, to be repeated every three hours if necessary. The following prescription is a most effective remedy: Castor oil, one drachm; deodorized tincture of opium, four drops; syrup of gum arabic, one ounce; tincture of peppermint, two drops; dose, one teaspoonful every two hours. In the treatment of diarrhea, it is always advisable to be governed by the character of the stools.

Cholera Infantum.—This malady is popularly known as "summer complaint," and is one of the most destructive of diseases of young children, especially in large cities, where sanitary conditions are not always of the best. Medical aid is required in this disease from the very commencement. Hence it is important that the early symptoms be readily recognized, in order to give the little patient the benefit of the best medical aid as soon as possible.

Symptoms.—Among the principal symptoms are diarrhea, rejection of food, vomiting, debility, languor and sometimes stupor. The stools may become bloody, with an admixture of blood and slime. In this case, however, it is more of the nature of dysentery, in itself a very serious disease. In the early stages of cholera infantum, the head may be hot, the abdomen swollen, and, as the disease progresses, coldness and emaciation come on. The diarrhea may be copious, and the vomiting so persistent as to endanger life. In very grave cases, the head symptoms are prominent and endanger life in the course of a few days.

Treatment.—The following are some valuable prescriptions for cholera infantum:

(1) Calomel, one grain; bicarbonate of soda, twelve grains; powdered ginger, eight grains; mix and divide into eight powders; dose, one powder every three or four hours.

In the early stages, if there is much heat in the head, and a tendency toward stupor, cooling applications should be made; a cloth wrung out of cold water must be applied to the head and changed frequently, to keep down the temperature.

The two principal morbid conditions to be treated are the diarrhea and vomiting. For the bowels, astringents are called for.

(2) Sulphate of copper, one grain; deodorized tincture of opium, eight drops; distilled water, four ounces; dose, a teaspoonful every two, three or four hours.

The following has been found very useful where the diarrhea was troublesome: (3) Paregoric and tincture of rhatany, each one drachm; powdered sugar and powdered gum arabic, each one-half drachm; water, two ounces; dose, a teaspoonful every two, three or four hours.

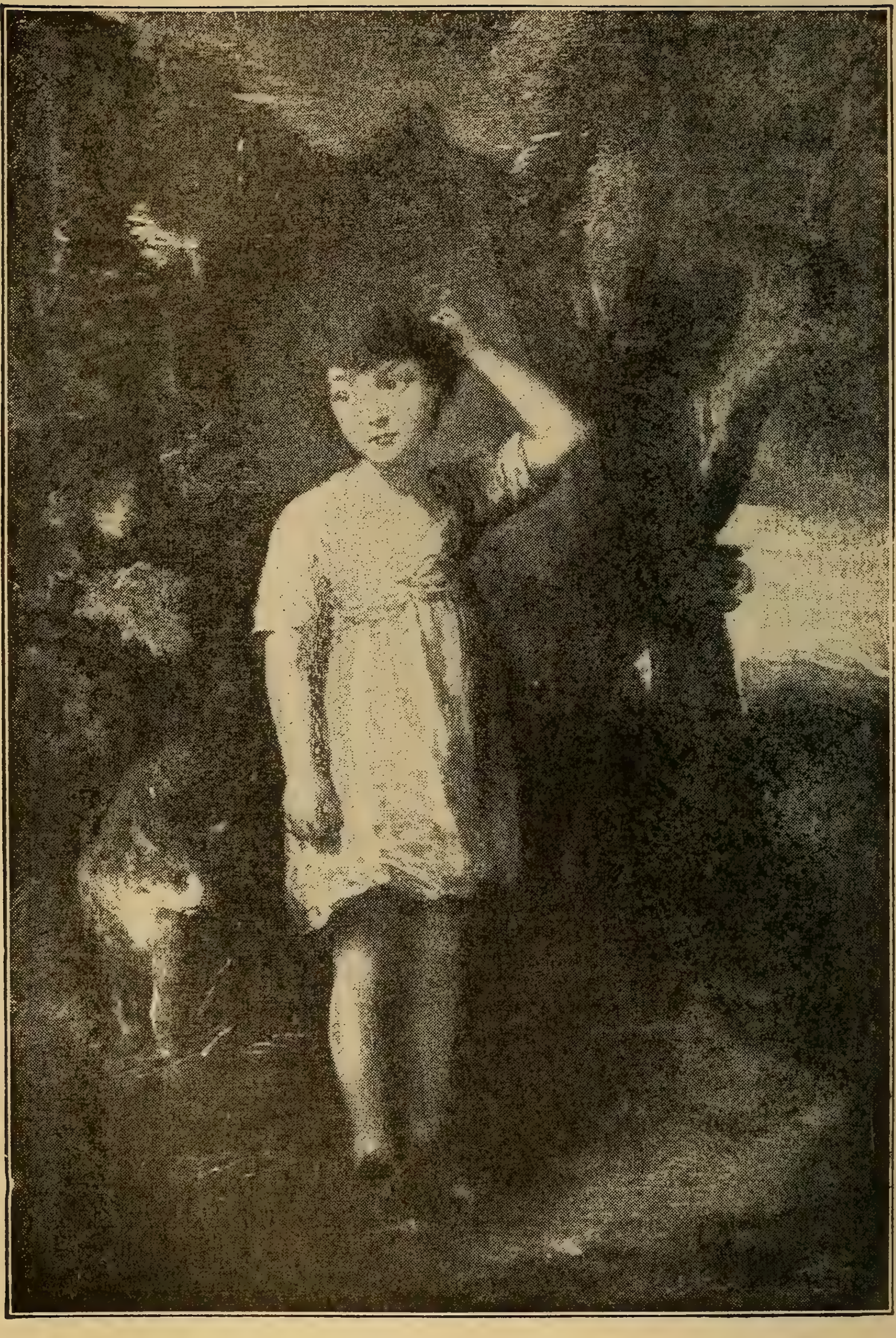
A spiced poultice should be kept over the abdomen as long as vomiting continues. Ice is better adapted to quench the thirst than water. Small pieces may be allowed to slowly dissolve in the mouth, which in the case of quite young children should be pounded up in a rag and given to them in that way.

The food should consist chiefly of milk and lime-water, arrowroot, chicken broth, beef broth, beef-tea, and, after the first stage, egg-nog; together with a tonic, if the strength is much reduced. In fact, summer complaint affords an opportunity for exercising all our powers of contrivance in preparing suitable dishes for the little invalid. Raw beef scraped fine, and well-made beef-tea, are among the most strengthening articles of diet, and they are generally acceptable to the weak and sensitive stomach.

Dysentery Among Children.—Dysentery, or dysenteric diarrhea, is not an uncommon affection of childhood. It is sometimes a consequence of a neglected attack of diarrhea, or it may follow any of the infectious fevers. The difference between this affection and ordinary diarrhea is that in dysentery the bowels become much inflamed and even ulcerated. The motions, at first like ordinary diarrhea, after a time consist almost entirely of slime and blood. Vomiting, stomach-ache and fever are all present, and there is great straining at stool.

The Treatment requires the same care and limitation of food as has been mentioned for diarrhea; hot fomentations should be applied to the abdomen; the bismuth mixture may be given.

At the commencement of the disease, if there be reason to suspect the presence of any irritating substance in the intestines, it is advisable to commence treatment with the use of some simple evacuant, like castor oil. The occasional administration of a laxative should not be neglected. If the stools be entirely or mainly muco-sanguineous, it should be employed so



MEDITATION.

as to prevent accumulation of the fecal matter in the colon. The dose should be small, merely sufficient to produce fecal evacuation and repeated as required. The laxatives commonly preferred are magnesia, rhubarb or castor oil.

The following prescriptions may be employed:

℞.	Pulv. ipecac comp	1 drachm.
	Bismuth subnitrat	2 drachms.

Misce. Divide into powders twenty-four. Give one every two to four hours to a child of five years.

℞.	Tinct. opii deodorat	24 minims.
	Bismuth subnitrat	2 drachms.
	Aq. menth. piperit	1 ounce.
	Syr. ginger	1 ounce.

M. Sig. Shake bottle. Give one teaspoonful every two to four hours to a child of five years.

In the first stages of the inflammation, rice or barley water, or arrowroot, and similar drinks should constitute the main diet. More nourishing food should be given, should there be a tendency to prostration, milk and animal broths then being allowed. In protracted cases attended with symptoms of exhaustion, a stimulant should be given.

Incontinence of Urine.—Incontinence of urine, or bed-wetting, is a most troublesome and not at all uncommon affection of children; it may occur during both day and night, or only at night, the latter being the much more frequent.

Treatment for Bed-Wetting.—Worms should be removed by injection, the tight skin by circumcision, the stone by operation, irritating urine by alkaline medicine, as citrate of potash (ten grains two or three times a day). The diet should be regulated, late meals avoided, and the amount of drink limited, especially for two or three hours before going to bed. The child should not be allowed to sleep on the back, or be covered too warmly.

Belladonna may be given as a tincture or in the form of tabloids; five drops may be given two or three times a day, the last dose at bed-time. If this does not bring about a change, it may be doubled. It should be given for some time, and not discontinued until some days after the trouble has disappeared, when the dose may be gradually lessened. At the same time, care should be taken that the child always passes his water the last thing before going to sleep, and that two or three hours after, when the nurse or parents go to bed, he is taken out of bed for the same purpose.

Retention of Urine.—The reverse condition of the foregoing may occur, the urine collecting in and filling the bladder. This causes a good deal of anxiety to the friends, but may usually be relieved by very simple measures It may be caused by some malformation with which the child is born, by the presence of a stone in the bladder or an abscess blocking the passage, by tightness and unusual length of the skin, called *phymosis*. If the cause is evident, it must be removed; stone, malformation or phymosis requires operation, the last being cured by circumcision. If no cause can be discovered, the child should be put into a hot bath, which, in the great majority of cases, brings about the desired result. This proving unsuccessful, a surgeon should be summoned, as it would then be necessary to draw off the water from the bladder by passing a hollow instrument called a catheter into it.

Phymosis.—Phymosis is the name given to a condition which is not at all uncommon in male children, and consists in a superabundance of skin on the penis. This is long, usually very tight at the orifice, and can not be drawn back at all, or only with a good deal of pain and pressure.

The orifice may be so tight as to cause interference in the flow of water, which is only passed with great straining, and may distend the skin before escaping; the straining leads to the formation of a rupture or to "falling of the bowel." The collecting of urine under the skin sets up irritation, inflammation and swelling of the parts, giving the child much pain, and may end in the formation of little stones in this situation or of inflammation of the bladder, and may in after-life engender unhealthy habits or produce serious disease. If the skin is drawn back by force, it may remain fixed in this position, and then produces what is called paraphymosis. The parts become very swollen, painful and inflamed, and, if the skin can not be replaced by gentle pressure, require the immediate attention of a surgeon, or very serious consequences may follow.

Circumcision.—To prevent the various troubles mentioned, the operation of circumcision should be performed. It is simple, the good results are seer at once, and the child will be all the better for it in after-life. No parent should put off the operation, if the unhealthy condition we are considering is present; any age is suitable, but the earlier it is done the better. Among the Jews the eighth day is fixed upon by their religious laws and children of a few weeks old bear it well.

For Tape Worm in Children.—

℞. Olei. filicis. mas........................1 drachm.
Mucilag. acaciæ...............q. s. ad. 1 ounce.

M. Sig. Shake well and give a teaspoonful every hour, commencing early in the morning, until the whole mixture is taken.

A large dose of castor oil should be given about noon or a little later, so that purgation will follow soon after the last dose is taken. If the bowels are not habitually costive, there is no necessity for the patient to undergo fasting or purgation. If they are costive, a saline cathartic should be given and a diet of milk allowed the day before administering the remedy. The following prescription may be given instead of the above:

℞. Etherial ext. male fern.................1 drachm.
Syr. tolu ....5 drachms.

M. Sig. Large dessertspoonful in the morning without any food.

In two hours after, a good dose of castor oil should be given.

For Round Worms in Children.—*Treatment.*—The bowels should be kept well opened by the use of castor oil or very small repeated doses of calomel, or one of the following prescriptions:

℞.	Fluid ext. spigeliæ	2 ounces.
	Fluid ext. sennæ	1 ounce.

M. Sig. One teaspoonful three to four times daily to a child of five years.

The following is one of the best:

℞.	Fluid ext. spigel et sennæ	2 ounces.
	Santonin	15 grains.

M. Sig. Teaspoonful three times a day, for three days; skip three days and repeat.

The round worm resembles the common earth worm, and is familiar to every mother of a large family.

It is probable that the round worm is not generally injurious to health. It may be said of most intestinal worms that they are not usually injurious to health.

Thread Worms or Pin Worms.—Thread worms, pin worms or seat worms are found principally in the lower part of the bowels, especially in the rectum and anus. In females the worm sometimes passes over to the vagina. Their presence can usually be detected without difficulty by careful examination.

Treatment.—These pin worms can usually be destroyed and expelled by injections of salt water, and the irritation of the parts may be soothed by applying vaseline or sweet oil. One of the prescriptions for the round worm may be used, if the salt-water injections fail.

Rickets.—Rickets is a disease of children. Children may be born rickety, but the great majority of cases fall between the ages of one and three years.

A symptom which is likely to attract attention more than any other is the peculiar softness and pliability of all the bones. They become bent and deformed in many ways; the skull is much lengthened from the front to the back, the forehead is high, square and prominent, and the head large—a condition which gives rise to the mistaken idea that the child is going to turn out a genius.

A rickety child may grow up puny and stunted, and with deformed limbs and narrow, delicate chest. In girls, the deformity produced in the bones of the pelvis may prove most dangerous afterwards by complicating child-birth.

Rickety children are sometimes considered by their friends to give promise of great intellectual power. This is partly due, as has already been mentioned, to their heads being large and their foreheads high, and partly to the fact that, being weak and indisposed to play games with other children, they spend most of their time with their elders, listening to their conversation and picking up their expressions.

FRIENDS.

The length of the disease depends upon the duration of its causes. When they are removed and suitable treatment is applied, the symptoms gradually disappear. Most cases recover, but death occurs sometimes—especially in infants—from some of the complications, an attack of bronchitis, diarrhea or convulsions rapidly carrying the child off.

Treatment for Rickets.—The treatment should be commenced as soon as the symptoms of the disease are recognized; the sooner the better, for early treatment may prevent altogether the permanent deformity and stunted growth. The unhealthy conditions of the child's surroundings must first be removed; both mother and child must be well and properly fed, the rooms must be ventilated, the child must be taken out regularly in the open air, warmly dressed and kept thoroughly clean.

A suitable diet, of course, depends upon the age of a child; it must be both digestible and nutritious in every case. If they are being nursed at the breast, they should be weaned, and put upon good cow's milk, broths, bread and butter and the yolk of a lightly-boiled egg, according to their age. Over-suckling should at once be stopped, and starchy food given in all cases with great care, and at first in very small quantities. At about eighteen months much benefit is obtained by giving a small quantity of meat, well pounded up, and with all skin and gristle carefully removed. The meals should be arranged with the greatest regularity, and no food, cakes, sweets and the like be allowed during the intervals.

Much may be expected of medical treatment aided by hygiene and diet. Cod-liver oil is the most important and generally used drug; it should be commenced at once, the bowels having been thoroughly unloaded of all undigested food. As at first some trouble may be found from indigestion, it should be given in small doses, which may be gradually increased as the child becomes accustomed to it and likes it. It may be given alone or as an emulsion, well mixed with some pleasant substance to conceal the taste, or with malt extract or maltine, or with steel wine. A dose of only ten drops may be used at first, as a trial, increased to a teaspoonful and then to a dessertspoonful three times a day. If oil is passed in the stools, too much is being given. Although children generally come to look upon the oil as a treat, others can never become accustomed to the strong fishy taste.

Phosphate of lime is another valuable agent in this disease. The syrup of iodide of iron will be found of great service. As convalescence advances other tonics may be employed with benefit, such as quinine and the various vegetable tonics. The deformities may be prevented by not allowing the child to walk while the bones are still soft.

St. Vitus' Dance.—St. Vitus' dance (chorea) is a peculiar nervous affection which is almost limited to the years of childhood; infants are hardly ever affected by it, or even children under six years of age.

Symptoms.—Fretfulness and impatience, promoted by slight causes, and unconscious movements of the hands and muscles of the face, are the first symptoms indicating the approach of chorea. Involuntary jerking motions of the hands and other portions of the body are next noticed, other muscles are soon involved, and in the course of a few days or weeks all control over the muscles of the face and movements of the extremities is lost. The action of the heart is irregular and tremulous; the speech is slow, thick and indistinct, in consequence of the muscles of the tongue and larynx becoming involved. In severe and long-continued cases, more or less impairment of the mental faculties occur.

Treatment.—Fresh air and outdoor exercise, avoiding undue excitement, and a nutritious diet, are the first requirements in the treatment of chorea. A diet of milk, beef-essence, soft-boiled eggs, clam broth and raw oysters, etc., should be provided. In exceptional cases, where the choreic movements are violent, the patient should lie in bed. Most cases of chorea are associated with anæmia.

℞. Liq. potass. arsenit..................1½ drachms.
Aquæ..........................q. s. 4 ounces.

M. Sig. Teaspoonful three times daily, after meals, to a child of eight to ten years.

Absolute rest is essential. In the milder forms a few hours' rest in the morning and afternoon may be sufficient to control the movements, but in all other cases the patient, no matter what age he or she be, should be put to bed at once. After a few days of quiet and rest a decided improvement is noticeable.

Absolute rest for two weeks is necessary. Next important to rest is a diet which is nutritious and easily digested. It is important that the child should rest well at night.

Change of scene and air, carefully managed gymnastic exercises and massage are all useful at the end of an attack, or in very chronic cases, but not in the early stages. Kindness and firmness must be combined in the management of the little patient, and she should be encouraged to do all she can to assist in her own cure.

Scrofula, or Struma.—Scrofula, or struma, is a constitutional condition closely allied to, if not identical with, consumption. Consumptive parents are very liable to have strumous children. Children who have manifested signs of struma are prone to be attacked with disease which is distinctly of a tubercular nature, and the various members of a family are often found to suffer from complaints, some of which are strumous, while others are tubercular.

Scrofulous children are liable to many diseased conditions. They have very deficient resisting power to withstand external influences which predispose to disease. They are deficient in growth and development, and very prone to many affections produced by a slow form of inflammation.

Lymphatic Glands.—The great liability to enlargement of the lymphatic glands is the first peculiarity to be considered. This may affect the glands all over the body, but those situated in the neck and under the jaw are most commonly involved. Disfiguring scars and swellings in the neck can be seen daily in the streets of any large town. Very little irritation is sufficient to cause enlargement of the glands; eczema of the head, lice, a sore throat, decayed teeth, or any slight sore, may cause a swelling, which, gradually increasing, produces great deformity. After a time, matter forms slowly in the swelling, works its way by degrees to the surface, breaks through the skin, and produces an ugly discharging sore, which only heals with great difficulty, and leaves behind a mark which lasts a lifetime. The swellings are seldom painful or acutely inflamed, and do not cause much inconvenience, except from their size. The constant discharge, however, reduces the strength.

The Eyes Are Often Inflamed.—The edges of the lids get sore and red, a thick discharge collects, especially at night, sticking the lids so closely together that they can only be separated with difficulty when the child awakes. Little sores may occur on the eyes themselves, which leave behind white patches often sufficient to cause great disfigurement and interfere with the sight.

Eczema of the Head and other parts is common; chronic enlargement and disease of the joints, especially the knees and hips, discharges from the nose and ear, and enlargement of the tonsils, are all manifestations of the same affection.

Treatment.—All sources of irritation, however slight they appear, must be removed as soon as possible, so that the enlargement of glands which they produce shall be avoided; and the following general directions for health and diet must be carried out.

The diet should be liberal and nourishing, and should contain abundance of the fatty foods, meat, fresh eggs, milk and cream.

Of drugs, the best are cod-liver oil, maltine and malt extracts, syrup of the iodide of iron, and they should be continued for a long time, ringing the changes—cod-liver oil in the winter, maltine and iron in the summer, or any of them taken in combination with cod-liver oil.

Iodide of potash, five grains, three times a day, when the result of syphilis. Tincture of iodine painted on the glands, when they are swollen and enlarged. Cod-liver oil in this disease is a remedy and a nourishment. The best preparation is Scott's emulsion, containing fifty per cent. of cod-liver oil with the hypophosphite of lime and soda. It is palatable, and contains the remedies that act against the disease.

CHAPTER XXI

DISEASES PECULIAR TO WOMEN

Amenorrhea.—Amenorrhea is characterized by a scanty flow, or complete absence of discharges, at the menstrual period. It is one of the frequent maladies of girlhood. It may occur at all ages and from a variety of causes either accidental or constitutional.

Causes.—Among the accidental causes may be mentioned want of exercise, improper or insufficient food, a lack of pure air and sunlight, depressing mental influences, overwork, and any of those conditions which in any way deteriorate the general health.

Among constitutional causes are such temperaments known as the sanguine or lymphatic, wherein there is a disposition of the organs of the body to congestion, in which case the blood is withdrawn from the womb.

Intense excitement and excessive study will cause it; but unless the excitement or study be constant, the system reacts healthily and the trouble soon disappears. Many diseases of the womb, displacements and improper developments are also causes of amenorrhea.

Symptoms of Amenorrhea.—The symptoms are local and general, and are numerous and often serious. Some of the local symptoms are pains and a sensation of weight in the pelvis, dragging feelings in the loins and groins, together with much weakness in the limbs. The general symptoms are such as languor and debility, heart palpitation, difficult breathing, dizziness, shooting pains, cramps in various parts of the body, and a long train of both bodily and mental symptoms may ensue, indicating a derangement of one of the most important organs of the body.

As far as possible the exact cause should be ascertained. A careful study must be made of the habits and mode of life. In many cases nothing more may be needed than proper attention to the general health. All such sports and pastimes as conduce to good health should be advised, and cheerfulness of mind and general tranquility of both mind and body be as far as possible promoted.

Treatment for Amenorrhea.—So far as concerns medicine in this disease, iron in some form has the preference of most physicians. Some of the following prescriptions may be used: Sulphate of iron, one drachm; extract of gentian, two drachms; mix and divide into thirty pills; dose, one pill three times a day.

Or: Syrup of iodide of iron, one ounce; dose, ten drops in water three times a day. If there are any indications of a scrofulous taint of the system, the last prescription is very good, as also is the following: Protiodide of iron, six grains; starch, twenty-four grains, and sufficient syrup to make it up; mix, and divide into twenty-four pills; dose, one pill morning and evening.

Electricity, if employed in time and in a proper manner, is said to seldom fail in amenorrhea.

A mustard plaster over each ovary, taking a warm foot bath, drinking a cup of hot tea, and then retiring to rest, will frequently have the effect of bringing on the menses, when delayed, and very often no other medicines are required.

Dysmenorrhea.—Dysmenorrhea is a painful and scanty condition of the menstrual flow.

The usual symptoms are pains in the back, groin and abdomen; burning heat and often intense itching in the parts, and a heavy, dragging feeling in the pelvis.

Sometimes vomiting, headache, irritable temper, restlessness and great general debility are present.

Discharge sometimes small; sometimes it is composed of clots, and in some cases it may be quite free and almost natural.

It frequently disappears on marriage and very often after pregnancy.

Treatment of Dysmenorrhea.—Painful menstruation, or sudden arrest of the menstrual flow, whether caused by moral emotion or by cold, may be relieved and effects prevented by the following mixture:

℞. Fl. ext. viburnum	1 ounce.
Tr. acontie	½ drachm.
Tr. pulsatilla	1 drachm.
Aquæ	q. s. ad. 4 ounces.

M. Sig. Teaspoonful from one to two hours until relieved.

For the neuralgic form of dysmenorrhea the following mixture may be given:

℞. Tr. gelsemii	2½ drachms.
Tinct. cimicifuga	2½ drachms.
Fl. ext. viburnum	1 ounce.
Aquæ	q. s. ad. 4 ounces.

M. Sig. Teaspoonful every two to four hours until relieved.

If anæmia be present the tincture of iron should be taken in ten-drop doses three times a day.

In congestive dysmenorrhea the following mixture should be given:

℞. Fl. ext. ergot	2 ounces.
Tinct. gelsemii	2 drachms.
Tinct. aconite rad	½ drachm.
Aquæ	q. s. ad. 4 ounces.

M Sig. Teaspoonful every two, three or four hours.

The above preparation may also be given in amenorrhea when depending on plethora.

Menorrhagia.—Menorrhagia is characterized by a too excessive, too frequent or too long continued discharge. The causes are over-fatigue, undue excitement of the organs, debility, various derangements of the womb, constipation and violent exercise. The discharge varies in quantity, but in some cases is sufficient to cause fainting.

The treatment at first must be directed toward the arrest of the profuse bleeding. The patient should lie on her back, with the pelvis elevated, be kept perfectly quiet, and the hands and feet made warm by friction or warm applications. If the bleeding persists, injections into the vagina may be used of ice water, vinegar and water, or alum water; and about thirty or forty drops of laudanum can be added to the injection. A full dose of opium is sometimes given, and the application of cold cloths to the abdomen and loins is often useful.

To control the profuse menstruation the following mixture should be given:

℞.	Potassii bromidi	5 drachms.
	Fl. ext. ergotæ	2 ounces.
	Aquæ	q. s. ad. 4 ounces.

M. Sig. Teaspoonful every three to four hours.

If the patient is debilitated from any cause the tonic should be given. As soon as the menses recur the tonic may be omitted and the above mixture again administered.

General Statement.—It should be understood, as a part of the philosophy of discharges of any kind from any of the organs of the body, that motion always tends to increase them. Thus, when diarrhea occurs, the patient is advised to keep still; when hemorrhages from the lungs threaten, violent exercise or exertion is dangerous. Similarly, whether blood escapes freely after child-birth or on account of menorrhagia, quiet must be maintained, and a reclining position observed until the symptoms are abated; the resumption of the usual exercise or employments must be very gradual.

Leucorrhea, Whites.—This disease, being commonly known by the name of *the whites*, appears in the form of a discharge from the vagina, varying both in color and quantity. It may be white, yellow, greenish or colorless, and the quantity may be so small as to be barely appreciable, or as much as a half pint a day. The discharge is in itself very annoying, and causes much discomfort, and the constitutional symptoms are more or less severe.

It depends upon debility and an inflammatory condition of the parts, and a long list of causes might be enumerated. All such influences as have a debilitating effect upon the system may give rise to whites. It seems to be constitutional in some persons, and the intimate connection between the uterine system and the nerve centers, and in fact with almost every organ of the body, lengthens the list of causes beyond all ordinary limits.

In the treatment of leucorrhea, it should always be remembered that the mere drying up of the discharge does not always cure the disease. A wide variety of constitutional disorders may in different cases need correcting, and the first thing to be ascertained in any case, is, obviously, the cause, and then, again, if possible, this should be removed.

Treatment of Leucorrhea.—In the acute form, when the discharge is profuse, and there is a good deal of inflammation and some constitutional disturbance, everything heating and stimulating in the food must be carefully avoided, and the drinks must be mucilaginous, as flaxseed tea, or such as lemonade, barley water and simple cold water. The bowels should be kept open.

If the leucorrhea is the result of some disease of the womb, it will be absurd to try and stop the discharge, until the womb disease is cured. For example, falling of the womb is nearly always accompanied by this discharge. If it is falling of the womb, the treatment would be to replace it and introduce a supporter, and the trouble will be avoided with proper treatment. If it is caused from a debilitated constitution, give nourishing food, rest, tonics for the womb; in fact, everything that will build up the system is recommended for this disease. If the disease is simply some abnormal condition of the vagina, as catching cold, or the discharge that remains after the monthlies, the following medicines are of use: Take a teaspoonful of alum, put it into a pint of warm water, allow it to dissolve, and use for an injection; or you may substitute sulphate of zinc for the alum. Glycerine and tannin, in the proportions of fifteen grains of the tannin to one ounce of glycerine. This is best used by saturating a small piece of cotton with the mixture, and introducing it into the vagina, leaving it there for twelve hours, which should be repeated every day until recovery. A solution of carbolic acid is of use when the discharge is offensive. It may be used for an injection, in the proportion of one teaspoonful to a pint of warm water. Warm injections are always of service, the hotter the better, especially if there is inflammation.

Chlorosis, or Green Sickness.—Chlorosis is the name applied to a peculiar affection usually associated with some one of the various uterine disorders. It is characterized by a swollen, puffy, pale and sometimes greenish color of the face.

In addition to these, there is more or less general debility, a depraved condition of the appetite and some disturbance of the mind.

Causes.—Among the causes some of the principal are insufficient and improper food, impure air, indolent habits, self-abuse, and, in fact, many of the conditions that tend to enfeeble the body, the nervous system and the digestive or generative functions.

It is almost essentially a disease of young women's life, though it occasionally occurs in pregnant women, or in those who have borne children.

It is often seen in girls about the age of puberty, who are growing very rapidly, and it sometimes has its origin in a scrofulous taint of the system, in menstrual disorders, in mental excitement, in melancholy and in a sedentary and luxurious mode of life.

Symptoms of Chlorosis.—These are very characteristic, and there is but little difficulty in distinguishing it from other diseases. The patient becomes dull and fretful; her sleep is broken, and her nervous system is so much disturbed that, on the slightest provocation, and often without cause, she is liable to fits of weeping and the most profound melancholy. There is swelling of the face, and dark circles form around the eyes; the lips are bloodless; the skin is often cold, clammy and almost colorless, with a peculiar greenish hue; this last remarkable feature of the disease has given it the name of "green sickness." In blondes, the skin is almost white, the little color of health being almost entirely lost. The skin of brunettes assumes a pale yellowish-green hue. This discoloration is evidently due to the watery condition and to the deficiency of the red corpuscles of the blood; the blood of a chlorotic person is deficient in iron and solid matter; hence the wasting and flabbiness of the muscles; the increase of water accounts for the dropsical and puffy state of the various parts.

The appetite is capricious, the digestion is much impaired, the bowels are commonly costive, and the evacuations have the appearance of white clay. The blood circulates with less force than in health, the heart is subject to palpitation on the least bodily exertion or mental emotion; the ankles swell as in dropsy, there is much languor and an almost constant disposition to sleep.

As the disease progresses, the digestion becomes curiously deranged, the patient forming likes and dislikes for certain kinds of food, and sometimes exhibits the most depraved tastes. An unaccountable appetite may be created for slate-pencils, magnesia, chalk, dirt, plaster from the walls, charcoal, or ashes.

Vomiting sometimes occurs after eating, as does also pain at the stomach; there are flying nervous pains felt in the face and various parts of the body, as the spine, neck, shoulders and arms. She is liable to severe headache, trembling of the limbs, dimness of sight, ringing in the ears and twitching of the muscles of the face and body.

Treatment of Chlorosis.—After removing the cause, whatever it may be, the first thing is to place the patient in a situation where she can breathe a pure and bracing atmosphere.

Her diet should consist of ripe fruits, milk, sago, tapioca, rice, eggs, roast meats, brown bread, and only such articles as agree with her and are easily digested.

Great care must be taken to avoid everything that in the least disagrees with her digestion. Vegetables having a laxative tendency are of benefit, and celery especially is of great value. As a general drink, pure, cool water is the best Lemonade will do good, but tea and coffee must be avoided.

A proper diet is almost as important in this disease as medicine, and in many cases it will be overcome by diet alone.

The clothing must be warm, and great benefit will be derived from the daily bath—a sponge bath, and, if the system reacts properly, a shower bath, every morning.

Plenty of outdoor exercise is also an essential part of the treatment. Fresh air and sunshine will often do wonders. Indeed, in very many cases, a proper diet, warm and comfortable clothing, fresh air and cheerful society, will be all that is necessary to effect a cure.

Tincture of muriate of iron, ten drops, three times daily, in a half glass of water, is a good prescription. Another is as follows: Syrup of the iodide of iron, ten to fifteen drops in a half glass of water three times daily. This is especially applicable if there is any scrofulous taint. Carbonate of iron may be made up into pills of five grains each; two of these three times daily will be found very serviceable.

Here is a prescription said to rarely fail in curing any case of chlorosis: Citrate of iron, two drachms; sulphate of quinine, half a drachm; water, one ounce; mix these together, and take from twenty to thirty drops, in a half glass of water, three times a day, a half hour before each meal; if found unpleasantly bitter, the water in which it is taken may be sweetened to the taste.

Inflammation of Vulva—Vulvitis.—The external parts of the female organs of generation are liable to inflame from a number of causes. It sometimes arises in young people from a want of cleanliness of the parts. It may be caused in older women by injuries at child-birth. The irritation is often of the most annoying character, and may lead to certain vicious habits. The patient, to obtain relief, is often compelled to rub the parts, which only aggravates the condition, increasing the discharge and causing a most disagreeable smarting.

Treatment.—In the early stage, a very simple plan will frequently suffice. The first requirement is the most thorough cleanliness. Cooling lotions, or even cold water frequently applied, together with a regular action of the bowels and perfect rest, will be all that need be done in some cases.

There are many lotions used for the cure of vulvitis; but if thorough cleanliness is observed, and a simple solution of borax is applied as a lotion, no difficulty should be experienced in effecting a cure. A small piece, about the size of a hickory nut, may be dissolved in a pint of water, which will form the proper strength; if a piece of lint is saturated with this and placed between the two lips of the vulva, the cure will not only be more rapid, but there will be no chance of the lips growing together;

cases of this kind have occurred more than once, where there was much inflammation.

Pruritus of the Vulva.—This is a most distressing disease. It consists of an incessant and intense itching of the parts, being so severe sometimes that the woman is in a state of the utmost misery.

Its cause is somewhat obscure, but in any cases it originates in the same manner as do simple inflammations, which it often accompanies. In some women it occurs during menstruation; others are prone to it during pregnancy; it occasionally arises from the presence of parasites. There is usually no eruption; the parts are generally swollen and inflamed.

Treatment.—The condition of the bowels must receive attention, the diet must be plain and unstimulating, and cooling washes should be applied to the parts. The following is recommended as very effective: Hyposulphite of soda, four drachms; glycerine, two drachms; distilled water, six ounces; mix and use as a lotion.

A lotion of borax is very serviceable in this affection, as well as in vulvitis. It may be combined with morphine, which in itself is powerful in allaying the irritability of the parts. This lotion seldom fails to effect a cure: Borax, three drachms; morphine, four grains; water, six ounces. It should be applied three or four times daily, by means of a soft rag.

Care should be taken that the parts are kept scrupulously clean by frequent bathing with soap and warm water. Sitz bath of a mild temperature is often serviceable; the temperature of the water may be from seventy-five to eighty-five degrees. Some physicians advise the patient to sit in cold water, and others advise the application of ice.

Inflammation of the Womb—Metritis.—This disease is common among married women, and results more frequently from delivery than from any other cause. It may also arise from injuries, such as blows, or from retention of menses, from difficult menstruation, stimulating food, certain medicines taken for the purpose of producing abortion, injections of an extremely irritating character and the like.

Symptoms of Metritis.—These are dull and constant pains, both in the womb and the parts near by. Sensations of heat and uneasiness, with darting pains felt in the thighs, loins and back.

There is sometimes a feeling of weight, causing the patient to strain and bear down. The pain is often much increased by hard pressure over the womb, or by coughing. In severe cases, the abdomen swells and becomes so tender and painful that the slightest touch can not be borne. There are usually chills, followed by fever, and more or less restless anxiety. As the disease progresses, there is a discharge of mucus, scant or profuse, thin or purulent, according to the extent of the inflammation.

In cases where the inflammation is chronic, or confined to some particular part in the neck, the symptoms are more of a local character, less severe and very insidious, often making considerable progress before attracting the attention of the patient. Usually there is a dull pain in the lower part of the abdomen, becoming more severe at every effort to open the bowels or empty the bladder. Sexual intercourse also increases the pain, and there is commonly a thin mucous discharge; if there is any ulceration of the parts the discharge may be tinged with blood.

Treatment of Metritis.—This must first tend toward the reduction of the inflammation. Fomentations of hops applied to the abdomen are very useful; and the patient should be allowed plenty of cooling drinks. The bowels should be kept regular, the extremities must be warmed, the head cooled, and, if possible, the pores of the skin should be freely opened and perspiration induced. A vapor bath will answer the purpose of promoting perspiration, and the application of fomentations or poultices to the abdomen, if persevered in and frequently changed, will reduce the inflammation and allay the pain.

Injections into the vagina of warm water, to which about one-half a teaspoonful of laudanum has been added, will give great relief; and tepid water injected into the rectum will probably give better satisfaction than purgative medicines; a large spoonful of castor oil added to the tepid water injection will increase its effectiveness.

Until the inflammation has subsided, all stimulants must be avoided, and the diet must be very scant; but little food of any kind should be taken until the inflammation has been somewhat subdued.

In Chronic Inflammation, the diet must receive especial attention; meat should be eaten sparingly and it should not be salted or smoked. Coffee, alcoholic and warm drinks are not allowed, but in their place may be substituted cooling beverages, such as lemonade, barley water, gum arabic water, or simple cold water. Frequent injections of cold water into the vagina should be employed. The great aim is to improve the general health; and if strict attention is paid to hygiene, including bathing, exercise in the open air, warm clothing, diet and a regular state of the bowels, improvement will be very sure to follow sooner or later.

CHAPTER XXII

DISEASES OF THE RESPIRATORY ORGANS

Outline of Diseases and Symptoms of the Respiratory Organs.

Disease.	Cough.	Expectoration.	Pain.	Fever.	Chief Symptoms.
BRONCHITIS..............	Very severe	Free, frothy or thick	Soreness in front of chest	Moderate	Cough and expectoration.
PNEUMONIA..............	Severe	Blood-stained and sticky	Soreness in side	Very high	Fever and difficulty of breathing.
PLEURISY.................	Slight	Scanty and;frothy	Stitch in side	Slight	Pain in side.
CONSUMPTION...........	Hacking or severe	Free, thick and with blood	Not severe	Hectic	Cough and wasting.
ASTHMA....................	Suffocating	Scanty	None	Absent	Difficulty of breathing.

Cough Remedies.—*Note:*—In ordering these mixtures, the prescriptions should be copied word for word and the amount required, as 6, 8, 10 or 12 doses, should be added, so as to include the amount wanted. Two tablespoonfuls equal an ounce.

For the dry, irritable cough, some such mixture as the following is useful:

(This is one dose.)

Paregoric Elixir, 20 drops.
Oxymel of Squill, 20 drops.
Sweet Spirits of Nitre, 20 drops.
Water, to 1 ounce.

Mix. One ounce to be taken every four hours.

This may also be given to children in teaspoonful doses; or for adults only, the following may be prepared:

(This is eight doses.)

Solution of Hydrochlorate of Morphia, 5 drops.
Chloroform, 8 drops.
Rectified Spirit, 72 drops.
Glycerine, to 1 ounce.

One teaspoonful to be taken every four hours in half a wineglassful of water.

ARTERIES AND VEINS IN MAN.

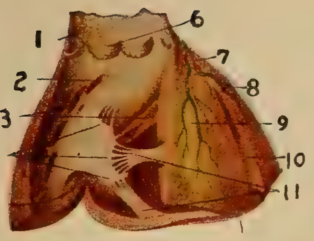

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Fig. 1. Heart.

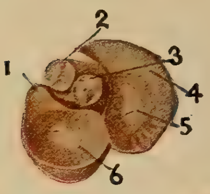

Fig. 2. Auricles.

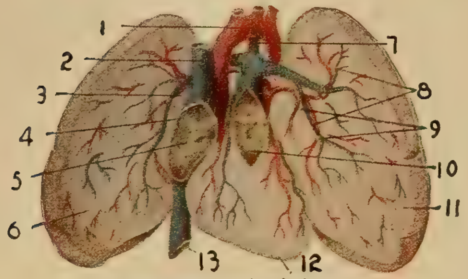
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Fig. 3. Pulmonary Circulation (lesser circulation)

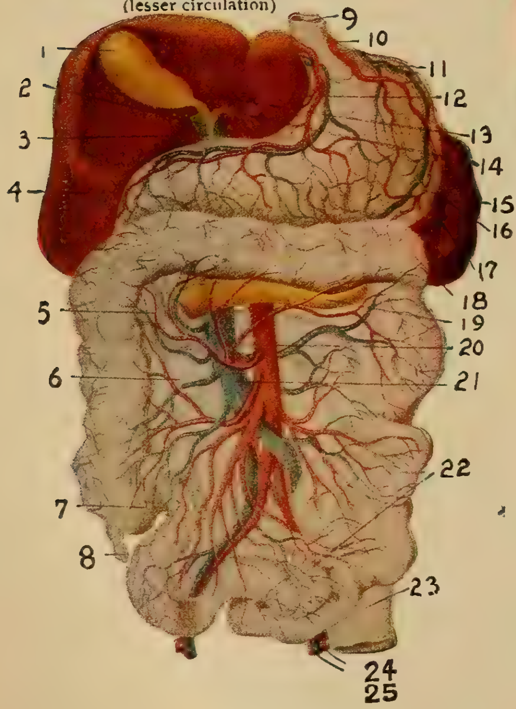
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Fig. 4. Portal Circulation.

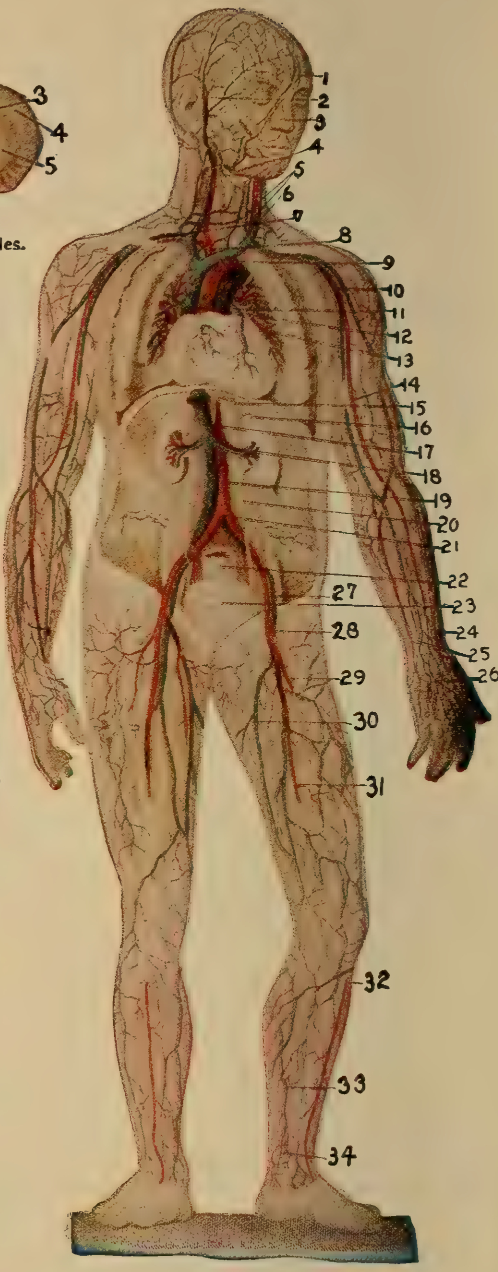
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Fig. 5. Systemic Circulation of the Body (greater circulation).

Fig. I. HEART. (Both Auricles and Ventricles opened according to regulation methods.) 1, Pulmonary Artery; 2, Right Ventricle; 3, Columnæ Carneæ; 4, Tricuspid Valve; 5, Right Auricle; 6, 3 Semi-Lunar Valves; 7, Coronary Artery; 8, Cardiac Vein; 9, Adipose Tissue; 10, Left Ventricle; 11, Papillary Muscle and Chordæ Tendineae; 12, Apex of the Heart.

Fig. II. AURICLES. 1, Auricular Appendix; 2, Aorta, Semi-Lunar Valve (closed); 3 Pulmonary Artery; 4 Right Auricle; 5, Tricuspid Valve (closed); 6, Left Auricle with the Mitral (or Bicuspid) Valve closed.

(CONTINUED ON OPPOSITE PAGE)

Fig. III. Pulmonary Circulation (Lesser Circulation). 1, Arch of Aorta; 2, Vena Cava Superior; 3 Right Pulmonary Artery; 4, Two Trunks of Vein; 5, Right Auricle with the Veno-Auricular openings; 6, Right Lung; 7, Ductus Arteriosur (patent only in fætal life); 8, Trunks of Left Vein; 9, Pulmonary Artery; 10, Right Ventricle; 11, Left Lung; 12, Apex of Heart; 13, Vena Cava Inferior.

Fig. IV. Portal Circulation. (The junction of the veins of the Stomach, Mesenterium, Spleen and Pancreas to form the Trunk of the Portal Vein is covered by the Stomach.) 1, Gall Bladder; 2, Portal Vein; 3, Ductus Choledochus; 4, Inferior Surface of Liver; 5, Duodenum; 6, Omentum; 7, Cæcum; 8, Appendix Vermiformis; 9, Oesophagus; 10, Right Gastro Epiploic Artery; 11, Right Gastro Epiploic Vein; 12, Coronary Ventricular Artery and Vein; 13, Hepatic Artery; 14, Ductus Hepaticus; 15, Spleen; 16, Greater Curvature of the Stomach; 17, Splenic Vein; 18, Transverse Colon; 19, Pancreas; 20, Superior Mesenteric Artery; 21, Trunk of the Mesenteric Vein before its junction with the Veins of the Spleen, Pancreas or Stomach; 22, Ileum; 23, Rectum; 24, Inferior Mesenteric Artery; 25, Vein cut through.

Fig. V. Systemic Circulation of the Body. (Greater Circulation.)

(The Viscera of the Portal Circulation (Fig. IV) are removed from the Abdominal Cavity.) 1, Frontal Artery and Vein; 2, Temporal Artery; 3, Facial Vein; 4 Submaxillary Artery; 5, Carotid Artery (place for ligation); 6, Jugular Vein; 7, Subclavian Artery and Vein; 8, Innominate Artery; 9, Arch of Aorta; 10, Axillary Artery (place for ligation); 11, Pulmonary Artery (blue); 12, Superior Vena Cava; 13, Pulmonary Vein (red); 14, Brachial Artery (place for ligation); 15, Oesophagus (cut through); 16, Suprarenal Body; 17, Inferior Vena Cava; 18, Renal Artery; 19, Abdominal Aorta; 20, Ureter; 21, Division of the Abdominal Aorta into the right and left common Iliac Arteries; 22, Rectum; 23, Urinary Bladder; 24, Radial Artery (place for ligation); 25, Ulnar Artery (place for ligation); 26, Palmar Arch; 27, Iliac Vein; 28, Femorla Artery (place for ligation); 29 Femoral Artery Profunda; 30, Saphenous Vein; 31, The place of passage of the Femoral Artery through the Adductor Magnus Muscle, becoming the Popliteal Artery and descending to the Popliteal space; 32, Anterior Tibial Artery; 33, Saphenous Vein; 34, Posterior Tibial Artery (place for ligation).

The red lines signify the Arteries; the blue lines signify the Veins.

Or ten-drops of the tincture of gelsemium may be substituted for the morphia.

When, on the other hand, there is great difficulty in expectorating the phlegm, another class of drugs, called expectorants, must be used. If the already mentioned sedative drugs are employed, the cough may be eased, but the phlegm will accumulate in the air-passages and become a source of danger.

The stimulating cough mixtures are:

(Each is one dose.)

Carbonate of Ammonia, 5 grains.
Tincture of Senega, 40 drops.
Syrup of Squills, ½ drachm.
Syrup of Tolu, 1 drachm.
Water, to 1 ounce.

Two tablespoonfuls to be taken every three or four hours.

Or

Antimonial Wine, 5 drops.
Carbonate of Ammonia, 5 grains.
Syrup, ½ drachm.
Tincture of Lemon, 20 drops.
Water, to 1 ounce.

To be taken every three hours during effervescence with a powder of Citric Acid, 10 grains.

Ipecacuanha is a useful expectorant, and is much employed in the treatment of cough, but it should be taken with care, as it is liable to cause nausea and vomiting; this effect makes it unsuitable in cases in which the appetite is impaired. A good way to employ the drug is to mix a teaspoonful of ipecacuanha wine with half a tumblerful of water, and take a teaspoonful of this every hour or two. Aconite may be taken in the same way; one or two drops of the tincture in water, taken every two hours, being especially useful in coughs accompanied with symptoms of fever.

For the troublesome cough of chronic bronchitis, inhalation of some stimulating resinous preparation is the best treatment; a few drops of creosote, pure terebene, or the oil of the Scotch pine, with some light carbonate of magnesia, should be placed in a jug of hot water, and the steam containing the vapor should be deeply inhaled for a few minutes at a time. The following is the form of prescription:

(This is eight doses.)

$\left\{\begin{array}{l}\text{Creosote, 80 drops,}\\ \text{Or Oil of Scotch Pine, 40 drops,}\\ \text{Or Pure Terebene, 40 drops.}\end{array}\right.$
Light Carbonate of Magnesia, 20 grains.
Water, 1 ounce.

Mix. A teaspoonful to be added to a pint of hot water for each inhalation.

Chlorate of potash and borax lozenges allay the cough of sore throats, and ipecacuanha and morphia lozenges that of bronchitis. It must not be forgotten that cough is only a symptom, and that the disease causing it necessarily calls for treatment, in order that the cough may be cured.

Spitting of Blood.—The slighter forms of blood-spitting can usually be easily checked by a mouth-wash or gargle. When, however, it comes from the lungs it is a much more serious matter, and the treatment must be directed to the disease which causes it; if it is profuse the blood coming away in large quantities, it requires prompt treatment.

Treatment.—The patient should be immediately laid down, with the head raised on a pillow, kept perfectly still, and not allowed to talk; the room should be kept cool by opening the window, and the body covered with only light clothing. Ice should be applied to the chest in a waterproof bag, small pieces of ice slowly sucked, or iced drinks taken in sips; no stimulants should be allowed. As this symptom is often part of severe disease, and slight bleeding may be a precursor of more severe hemorrhage, the doctor should be sent for, and in the meantime, or if medical aid can not be obtained, one of the following astringent mixtures should be procured and administered without delay:

(Each is one dose.)

Alum, 15 grains.
Dilute Sulphuric Acid, 15 drops.
Acid Infusion of Roses to an ounce.

To be given every three or four hours.

Or

Gallic Acid, 15 grains.
Liquid Extract of Ergot, 20 drops.
Syrup, ½ drachm.
Water to an ounce.

To be given every three or four hours.

These should be given every hour for the first two or three doses, and then every three or four hours, as the hemorrhage gets less.

Bleeding From the Lungs.—Bleeding from the lungs should be treated by permitting the patient to inhale the vapor of warm turpentine. Pour an ounce or two of turpentine into a teapot filled with boiling water, the patient applying the mouth near to the spout of the teapot.

Or, turpentine may be applied to a napkin folded in the shape of a cone and applied over the mouth and nose to inhale the vapor.

A good remedy for bleeding from the lungs, as well as from the stomach, is common salt. A teaspoonful of common table salt may be swallowed. This should be repeated as found necessary.

Nasal Catarrh.—Nasal catarrh, or common cold in the head, is a comparatively harmless, although a very disagreeable affection. The essential part of the disease is an inflammation of the lining membrane of the cavitites of the nose, which causes great irritation and sneezing, accompanied with a watery discharge. Result—a nuisance to one's self and to everybody near.

Catching Cold.—Many people have a peculiar proclivity to catch colds upon every occasion, and after the very slightest exposure; and for such, preventive treatment is very important, as a neglected or oft-recurring cold often sows the seeds of serious disease. The means of prevention are, first, to avoid exposure to sudden changes of temperature, as passing from a hot room to a cold one, leaving a warm room without putting on an extra covering, or getting chilled after active exercise when in a state of perspiration. As a rule, colds are not caught while the body is thoroughly heated, but while it is cooling; at this time heat is being rapidly lost by perspiration, while there is no reaction and increased heat being produced by exertion. We learn from this that it is always well to keep moving while the body is cooling, or until damp clothes can be removed.

After Getting Wet, either by rain or perspiration, it is very unwise to take any form of alcohol with the idea of keeping out the cold. Alcohol acts by driving the blood to the surface of the body, causing perspiration and increased loss of heat, and is followed by depression, rendering the body more vulnerable.

Treatment for Colds.—Those who suffer from an excessive sensibility to cold should, as far as possible, take daily exercise in the open air, dressed rather warmly for the season, and should every morning sponge the entire surface of the body with cold water, or take a plunge or shower bath, by which means the sensibility of the skin will be diminished and the body become protected against injury from changes of temperature.

But, do what we will, colds will sometimes come. Camphor is used in the form of the tincture, three to five drops of which must be taken on a piece of sugar every ten or twenty minutes for a few doses, but camphor is only useful at the very commencement of a cold. The patient should be kept in a warm but well-ventilated room, the temperature being maintained as uniform as possible. If the cold is bad, he should be put to bed. The inhalation of steam is very soothing to the inflamed parts, and, if they are particularly dry and irritable, about five to ten drops of eucalyptus oil should be added to the water used for the inhalation. Fever is a very common symptom of catarrh, but is usually only slight. When it is present, aconite is a valuable drug, and one-drop doses of the tincture should be taken every hour during the day. At bedtime measures should be adopted to secure a good night's rest and free perspiration: a hot bath may be taken, or the feet put into mustard and water, and after getting into bed a basin of hot gruel preceded by ten grains of Dover's powder.

Sore Throat.—Sore throat appears in four forms: *first*, simple inflammation of the throat (or catarrh of the pharynx); *second*, relaxed throat; *third*, clergyman's sore throat (or chronic inflammation of the larynx and pharynx); *fourth*, quinsy, or acute inflammation of the tonsils.

Treatment for the First.—On looking at the throat it is seen to be red and swollen, at first dry, but later moistened with a thick, sticky phlegm. The treatment consists of (1) external applications, as a linseed poultice, hot fomentations, or wet compress; (2) internal applications, as inhalation of steam, alone or with eucalyptus oil, sucking small pieces of ice, painting the parts with glycerine and boracic acid, and the frequent use of lozenges of chlorate of potash and boracic acid and (3) medicine, the tincture of aconite being given in one-drop doses every quarter of an hour, gradually decreasing the frequency of the doses as the patient improves. A good dose of salts or other aperient should be given to act thoroughly on the bowels at the beginning of the treatment. During the attack the patient should be kept in a warm room and be fed on fluid but nourishing food, as warm milk and soda-water, barley water and beef-tea. If the throat is slow in returning to a healthy condition, it should be painted two or three times a day with glycerine and tannic acid.

Relaxed Throat.—The relaxed sore throat is often a chronic condition following the acute inflammation just described, or it may be the original affection coming on gradually. An uncomfortable sensation in the throat with a constant inclination to hawk up small quantities of phlegm, a tiresome hacking cough, and some discomfort in swallowing are the symptoms accompanying it, and they are almost always worse in the morning, probably as the result of the throat getting dried and the accumulation of discharge. The lining of the throat, palate and uvula is seen to be reddened, swollen, relaxed, with thick, dry mucus discharge sticking to it; the uvula is often long and swollen, hanging against the back of the tongue and causing the irritation and constant tendency to cough.

The Treatment first has to be directed to the removal of the causes, and as this condition usually occurs in those who are debilitated and out of health, overworked, spirit drinkers, excessive tobacco smokers, or subjects of consumption, syphilis, chronic indigestion, or gout, these are the conditions we must attend to. For the first, we must give good nourishing food and tonics, one of the following mixtures being suitable:—

(Each is one dose.)

Compound Tincture of Bark, ½ drachm.
Carbonate of Ammonia, 5 grains.
Syrup, ½ drachm.
Water to an ounce.

Or

Sulphate of Quinine, 1 grain.
Tincture of Perchloride of Iron, 10 drops.
Spirits of Chloroform, 15 drops.
Water to an ounce.

Clergyman's Sore Throat—Treatment.—The advice which must be given first and foremost, and insisted upon, is to take rest; rest is just the one thing that the sufferer can not take, for in the majority of such cases the livelihood so often depends upon the constant use of the voice; or the patient occupies a position of importance, and can not relinquish it without great inconvenience. However, rest must be enforced, or the trouble will continue to get worse.

Good food and tonics are usually required, and as local treatment some form of stimulant, astringent and tonic application. The glycerole of tannic acid is suitable for painting on the parts that can be reached with a brush, and the inhalations and sprays recommended for the relaxed throat may be used with advantage, and will reach the larynx when affected as well as the more superficial parts.

Quinsy.—Quinsy (acute tonsilitis) is inflammation of the throat, chiefly involving the tonsils, and comes on rapidly after exposure to cold and wet. It most frequently occurs in young people, and, unfortunately, one attack predisposes to others, and the throat is apt to become delicate, and inflammation set up in it upon the slightest exposure to the exciting causes. Feverish symptoms, sometimes severe, accompany the onset of the disease, such as chilliness and shivering, hot, dry, burning skin, with headache, and pains about the body and limbs. The local symptoms are soreness and dryness of the throat, with a great deal of pain on attempting to talk or open the mouth. Swallowing is very painful also, and yet there is a constant desire to do so on account of the collection of discharge in the throat. Very often upon attempting to swallow fluids they cause a good deal of discomfort by passing up into the nose. Upon looking into the mouth, the throat is seen to be very much swollen and red, all the parts being affected, but especially the tonsils, one or both of which will probably project to such an extent as almost to fill the one side of the throat. If both are enlarged they may appear to block up the throat and to touch the uvula on each side. The interference with the swallowing and breathing may be so great that the patient feels as if he were going to be suffocated. But there is no reason to fear this, for the difficulty of swallowing only lasts a few days, and never quite prevents the taking of fluid forms of nourishment, or causes more than slight difficulty of breathing.

Abscess in Tonsil.—Frequently an abscess forms in the tonsil; as a rule one tonsil is much more inflamed than the other, is much larger, and more painful; and it is in this that the collection of matter forms and breaks; but sometimes, when this process has taken place in the one tonsil, it may commence in the other, and the patient have to bear the same set of symptoms over a second time. The bursting of the abscess of the tonsil gives an instant and most delightful relief to the patient's feelings.

This bursting may be hastened by a day or two if the tonsil is pricked and the matter let out; and for this reason it is always well to call the doctor in as soon as possible.

Treatment of Quinsy.—The treatment should be commenced as soon as possible, as it may sometimes cut the affection short if adopted in time, that is, during the first day or two. The sucking of ice in the early stages gives great relief, together with the treatment by aconite already recommended for sore throat, one drop of the tincture being given every hour. If, however, the throat continues to get worse, warmth will give more relief, and be more grateful to the patient's feelings: hot linseed poultices applied across the throat reaching from ear to ear, inhalation of steam, and the use of warm milk and water as a gargle, or frequently sipped. The application of glycerine and boracic acid with a large brush to the tonsils several times in the day, helps to soothe the great pain. The patient should take a dose of salts and go to bed, the air of the room should be moistened by the use of a steam kettle. The food must necessarily consist of liquids, warm milk, barley water, beef-tea, jelly and other simple foods easy to swallow. As the severity of the symptoms decrease, and the inflammation becomes less acute, glycerole of tannic acid can be substituted for the other application, or an astringent gargle of alum, five grains to the ounce of water; and during the convalescence tonics should be given. Prescription No. 5 or No. 6, prescription list A, are good tonics.

Laryngitis.—In scarlet fever, diphtheria and diseases of the kidneys this affection sometimes results from the general blood poison, and a very serious form is produced by a scald, through accidentally drinking very hot water. The mild form which so often follows catching cold, in the great majority of cases, is of no consequence and leaves no ill effects behind. It lasts for three or four days and then disappears. Occasionally it becomes severe, and if not attended to with the greatest care, rapidly ends fatally. In the old, the debilitated, the diseased and in very young children it should be looked upon as a dangerous condition, and in all it should never be neglected.

Treatment of Laryngitis.—The sufferer should be confined to one room, which should be well ventilated and the air kept at a about 70° F. and moistened with a steam kettle; a linseed poultice should be placed round the throat, and inhalations of steam, alone or with a few drops of eucalyptus oil added, used frequently. The bowels should be attended to, and the diet consist of light and chiefly liquid food, as warm milk, gruel and barley water; calf's-foot jelly and black-currant jelly are very soothing to the throat. Free perspiration should be encouraged by a hot bath and a ten-grain Dover's powder at bedtime; and a dose of the expectorant mixture (Pr. No. 14, list A) should be given every two or three hours.

In extreme cases it may be necessary for the windpipe to be opened, and this operation, if performed in good time, gives instant relief, and is followed in the great majority of cases, when performed for simple laryngitis, by recovery. It must always be borne in mind that a severe attack may really be caused by diphtheria, the diagnosis of which can only be satisfactorily formed by a doctor.

Acute laryngitis is liable to return, one attack being a predisposing cause of another; it may also terminate in chronic laryngitis, for which the treatment recommended in clergyman's sore throat should be adopted.

Bronchitis.—Bronchitis, or bronchial catarrh, is a similar condition to what has already been described as affecting the lining membrane of the throat, nose and larynx, only in this disease it is the membrane of the bronchial tubes which is involved.

Treatment of Bronchitis.—The bronchitis kettle is a most useful article to have in reserve, as it is needed in nearly all affections of the respiratory organs. It is very often a great relief to the patient if some drug is added to the water in the kettle. Eucalyptus oil relieves the cough, rendering it more efficient in removing the phlegm by softening this and making it more fluid. A few drops should be placed in the kettle and replenished as it becomes evaporated.

Poultices made of linseed or linseed and mustard, equal parts, should be applied to the chest. It is best to place them on the back, as the patient's breathing is not then impeded by their weight, but it may be necessary to apply them both back and front. In employing linseed poultices it is well not to use them continuously day and night; if this is done the patient finds them a great nuisance on account of the frequency with which he has to be disturbed; the skin becomes sodden and irritated, and the stimulating effect is lost. A poultice should be applied as hot as can be comfortably borne, left on for about two hours, and then carefully and quickly removed, the chest wiped with a warm towel, and covered with a flannel or layer of cotton wadding, which may remain on for about two hours until another poultice takes its place. In this way a poultice will be required every four hours, or about four to six in the twenty-four hours.

Stimulating liniments rubbed on the chest until the skin is thoroughly reddened give great relief; or if still greater counter-irritation is required a blister may be employed. By these means the blood is drawn to the skin from the inflamed and painful parts.

The inhalation of steam is always to be recommended. It loosens and softens the expectoration, and relieves the violent and painful cough. Any of the ordinary forms of inhaler may be used, or an ordinary jug, round the edge of which a towel should be placed. Each inhalation should last for from five to ten minutes. To the hot water may be added some drug sedative in the first stage of dry cough, and stimulant in the later stages (Pr. Nos. 29 to 31, list A).

Sweating.—One aim of treatment should be to produce free perspiration, and the following means, added to those already mentioned, will probably effectually attain this object: a hot bath before the fire, putting the feet and legs in mustard and water, and a bed well warmed with hot bottles and plenty of bedclothes. For the cough the following are useful mixtures: No. 1, to be given before free expectoration is set up, as it soothes and loosens the phlegm, while No. 2 should be administered when the expectoration is free, as it acts as a stimulant and aids in emptying the tubes. They may both be administered every two hours at first, but the intervals between the doses should be gradually lengthened as the case progresses.

(Each is one dose.)

Ipecacuanha Wine, 5 drops.
Solution of Acetate of Ammonia, 1 drachm.
Sweet Spirits of Nitre, 30 drops.
Camphor Water to an ounce.

To be taken every three hours.

Or

Carbonate of Ammonia, 5 grains.
Syrup of Squills, ½ drachm.
Spirits of Chloroform, 20 drops.
Infusion of Cascarilla to an ounce.

To be taken every three or four hours.

If constipation exists at the beginning of the attack the treatment by drugs may commence with two grains of cascara at bedtime, followed in the morning by a saline draught (Pr. No. 23, list A).

Inflammation of the Lungs.—Pneumonia, or inflammation of the lungs, is an affection of the true lung tissue. It is a very serious disease, and is attended with severe symptoms of general constitutional disturbance. One variety of inflammation of the lungs is that which follows unchecked bronchitis. The other variety of pneumonia results from direct exposure to cold and damp striking the lungs through the chest-walls. In order to do this the cold must first involve the pleura, or membrane covering the lungs. In this case, when both pleura and lungs are affected, the disease is called pleuro-pneumonia. When the bronchial tubes and lungs are affected together, it is called broncho-pneumonia.

Symptoms of Pneumonia.—The fever is very high from the first, remains at about the same height for from four to ten days, usually decidedly higher in the evening than the morning, and then suddenly falls to nearly the normal, when the time of the crisis comes. The patient is very ill, with high temperature and other severe symptoms; and suddenly, without warning, he improves rapidly. The temperature falls to normal or below it, and all the symptoms are relieved at the same time.

The Second Important Symptom is the rapid and difficult breathing—fifty to sixty in a minute—with troublesome cough occurring in violent attacks, and often with severe pain in the affected side, which is like a stitch, and described as stabbing or cutting. The cough is at first dry, but soon expectoration forms, which is transparent, very sticky and of a reddish or rusty color. This is enough to prove the presence of inflammation of the lung; the redness is due to blood, which is intimately mixed with the phlegm, and not in streaks or spots; it is so sticky that it will sometimes remain in the spittoon when it is turned upside down. The blood may be so small in quantity as to make the expectoration only a pale yellow, or so great as to appear like pure blood. An uncommon and serious exception is when the expectorated matter is watery and dark, like prune-juice

Inflammation of the lungs is a very serious illness, and whenever it is possible a doctor should be called in without any delay; but occasions may occur when this is impossible, and the patient has then to be treated by friends.

Our aim must be to place the patient in the best position to pass through it, and by all the means in our power to lessen the severity of the attack, to ward off complications and to maintain the strength.

Treatment of Pneumonia.—The room should be well ventilated and plenty of fresh air admitted. The bed-clothes should not be too heavy or warm. The patient should be kept quiet; talking, sitting up in bed or getting out of it for any cause, is strictly forbidden. The chest should be covered up with a layer of cotton wool, and if the pain in the side is severe, hot linseed poultices should be applied for an hour or two, three or four times a day.

While the fever is high, the food must be entirely liquid, though nourishing—milk, gruel, beef-tea, beef-essence and similar preparations being given in small quantities every two or three hours.

Drugs Are Not of Much Importance in ordinary cases of pneumonia, but may be required for the relief of symptoms.

For the cough, the mixture containing morphia (Pr. No. 13, list A) or paregoric (Pr. No. 12, list A) may be necessary. For high fever the best drug is quinine—a dose of the quinine mixture (Pr. No. 7, list A) should be given every three or four hours, and its effects on the temperature and patient watched.

If the tongue is furred, the appetite bad and the bowels confined, a calomel and rhubarb powder will be useful—calomel three grains with fifteen grains of compound rhubarb powder, or, better still, an enema of warm water and soap may be administered. If diarrhea comes on, nothing will stop it better than an enema of thin starch, four ounces with twenty drops of laudanum in it. A furred tongue can be cleaned with glycerine and lemon-juice as a wash.

To promote convalescence the food must be gradually increased when the fever disappears, and given in the solid form. The appetite can be improved by giving:

(This is one dose.)
Dilute Hydrochloric Acid, 10 drops.
Syrup, ½ drachm.
Infusion of Orange Peel to 1 ounce.

Two tablespoonfuls three times a day,
And the general health by tonics, as bark and acid (Pr. No. 8, list A) or bark and ammonia (Pr. No. 5, list A) or quinine and iron (Pr. No. 6, list A).

Cod-liver oil is useful also to improve the general nutrition of the body. Painting over the lower half of the back of the affected side or friction with liniments, will help to remove any remains of inflammation left in the lung. To carry out all these recommendations requires the most incessant and assiduous care and nursing, and it can not be too strongly enforced that a trained nurse would be invaluable for a case of acute inflammation of the lungs.

Bathing the chest with dilute alcohol is very soothing to the patient. This should be done whenever the fever is high, and when it relieves the patient.

Pleurisy.—Pleurisy, inflammation of the pleura or membrane which lies between the lung and chest-wall, is either the result of cold or is a part of some general disease, as rheumatism or infectious fever, or is caused by injury; it often occurs with diseases of the lungs, from the spread of the inflammation, especially in pneumonia and consumption. The pleura is like a closed bag, and is placed between the lung and the wall of the chest, one layer being spread over the surface of the lung and the other over the chest, to both of which they are pretty firmly attached. When this membrane gets inflamed it causes a severe, sudden pain, which is called a stitch, and is very characteristic of the first or dry stage of pleurisy. If the disease goes no further than this it is called dry pleurisy.

Treatment of Pleurisy.—The patient should be put to bed at once. His diet should be light, and, to relieve the pain, a linseed and mustard poultice, or mustard leaf should be applied to the affected side. If the pain continues, a good plan is to strap the side in order to lessen its movement. This requires a large sheet of ordinary thick plaster. Cut it into strips about three inches wide and long enough to reach from the spine behind to the breastbone in front. This must be moistened by warming before a fire, or by drawing the back against a jug of hot water. Commence at the lowest part of the chest. Each strip is to be applied while the patient empties his chest of air. The strips are so arranged as to bind the chest to keep it from moving.

Having poulticed or strapped the chest, a five-grain tabloid of Dover's powder should be given, and repeated every six hours until eight doses are given.

In order to act upon the bowels, kidneys and skin, the following mixture may be used:

(This is one dose.)
Cream of Tartar, ½ drachm.
Solution of Acetate of Ammonia, 1 drachm.
Tincture of Lemon, 20 drops.
Syrup, ½ drachm.
Water to an ounce.

Two tablespoonfuls to be given every four hours.

To aid in the absorption of the fluid, counter-irritation must be applied over the affected side by blistering fluid or liniment of iodine, and these should be used frequently so as to cause a soreness of the skin without actually blistering it, or the ointment of the oleate of mercury may be rubbed into the chest for the same purpose. Finally, iron and vegetable bitters (Pr. Nos. 5 to 8, list A). Cod-liver oil and good, nourishing food will be required to restore the patient to health and strength, but should never be employed until fever and other active symptoms of disease have disappeared.

Congestion of the Lungs.—Congestion of the lungs is a disease from which we very often hear people are suffering. The term really means that the lungs contain a larger quantity of blood in their vessels than when in a healthy state, but probably the name is often used popularly for bronchitis, or inflammation of the lungs. There are three chief varieties of this condition which it may be well to describe here briefly:

1. One form always occurs as the first stage of inflammation, and remains also for a short time after this has disappeared. Its symptoms and treatment are very similar to those described for pneumonia, and appropriate treatment applied at once may prevent the occurrence of inflammation. Difficulty of breathing, with slight fever, cough and spitting of blood, are the signs by which its presence is recognized. As a rule it only affects one of the lungs.

2. The second form of congestion occurs as a complication of severe diseases, which cause much prostration, especially when these occur in old age; it is likely also to affect those who are very debilitated and bed-ridden. It is caused by great feebleness of the circulation, which permits the blood to stagnate in the lungs; gravitation tends to cause this form of congestion in the back and lower parts of the lungs, both of which are usually affected, but chiefly the lung situated on the side upon which the patient lies. Its symptoms are blueness of the lips, face and extremities, with quick, shallow breathing. As this is often a cause of death, the liability of its occurrence has always to be kept in mind by both doctor and nurse. Its treatment consists in the administration of stimulants given frequently in small doses, in nourishing food to maintain the strength, and in constant changes of the patient's position to counteract the effects of gravity.

3. The third form of congestion occurs in many diseases of

the heart, and is due to an interference in the free circulation of the blood through the lungs. It affects both lungs in their whole extent, and not only the dependent parts. The symptoms are difficulty of breathing and cough, especially on any exertion, and the spitting of phlegm streaked with blood. Its treatment is that of its cause, and we must refer the reader to what is said on this matter in the treatment of heart disease.

Consumption.—Consumption, or phthisis, is a most common disease in this country. It prevails in all damp and variable climates.

Causes.—*First.* Undoubtedly, consumption is a disease that runs in families, and those whose parents have suffered from it, and many of whose relations have been affected by it, are especially liable to develop symptoms of the disease. These persons are born with a delicacy of the lungs and a peculiar predisposition to catarrh and other inflammatory diseases of the respiratory organs, which are in themselves strong predisposing causes of consumption. It is said that a consumptive father more readily transmits the disease to his sons and the mother to her daughters.

Second. Another very potent class of causes are those conditions which bring about general debility and ill-health, all severe diseases, as the infectious fevers, or syphilis, or such unhealthy conditions as are caused by insufficient or bad food, or excess in the use of alcohol. The drain on the system caused by long-continued discharges acts in the same way.

Third. Another important point is the effect of trade or occupation on the occurrence of consumption.

Fourth. Consumption may be transmitted from one person to another person who is healthy. The disease is due to the presence of a minute organism. This organism is called a bacillus, specifically, a tubercle bacillus. It is a microscopic vegetable growth, which looks like a rod. These germs are, probably, constantly around us and in the air we breathe, but it is only when they find someone whose tissues are predisposed by disease or constitutional delicacy to receive them, or, in other words, when they fall upon a suitable soil, that they take root and grow and cause the disease.

How Consumption is Spread.—It is probably by means of this germ that the disease is carried from one person to another, and it is believed to gain entrance to the body by being breathed into the lungs with the air in which it is floating in a dried state.

The expectoration of persons suffering from consumption is often swarming with these little organisms, and if it is allowed to stand about in the sick-room and get dried, it is easy to understand how the germs find their way into the lungs of others. This mode of propagation of the disease is looked upon as almost the only cause of its extension.

By preventing the expectoration from drying and becoming dust, an effectual means is obtained against its spread.

All inflammatory diseases of the respiratory organs are predisposing causes of consumption. Many an attack of bronchitis or pneumonia which has been neglected or imperfectly recovered from, proves the starting-point of consumption, and prepares the ground for the planting and growth of the tubercle bacillus.

Symptoms of Consumption.—The symptoms of consumption are most insidious, and creep upon the victim so gradually and unconsciously that it is a very difficult matter to say when the disease first began. The bacillus enters, and finding a suitable home in the lung, takes up its abode there.

Is consumption curable? Or is it always progressive and certainly fatal? It is most certainly in many cases curable; and it is only a mistaken, although very widespread, belief that all cases must end fatally, in spite of treatment. It probably would not be far from the truth to say that as many persons get well as die from consumption. We all can think of someone who was said to have had his lungs affected years ago, and is still alive and well. Doctors are very familiar with the appearance of a scar of the lung resulting from the healing of consumption years before.

Treatment of Consumption.—We must attempt (1) to arrest the progress of the disease, and (2) to increase the general nutrition of the body; and when any urgent symptoms arise (3) to relieve them with appropriate remedies. In order to carry out these three objects we have at our disposal the treatment by drugs, by diet, by hygiene and by climate. Drugs may be used with the special purpose of attacking the local disease in the lungs. Much was expected from the use of two substances called "Tuberculin" and "Tuberculocidin," which were introduced by Drs. Koch and Klebs for the treatment of consumption; but their use, like that of many other "consumption cures," has only ended in disappointment, and in the conviction that no true specific drug has yet been discovered, although many have been used and advertised as such. But there are some which are very beneficial in many cases.

Creosote has been much used. It is a product of the distillation of wood tar, a very pure variety being obtained from beechwood.

It should be first given in smallest doses, immediately after food, and the dose gradually increased until from fifteen to thirty drops are given in the twenty-four hours.

Or this mixture may be taken:

(This is twenty-six doses.)
Beechwood Creosote, 30 to 80 drops.
Tincture of Cardamoms, 4 drachms.
Glycerine, 2 ozs.
Alcohol to 4 ozs.

Two teaspoonfuls to be taken in a tablespoonful of water after meals; three or four times a day.

The smallest quantity of creosote is used at first, and the amount gradually increased. The creosote is absorbed into the body and is excreted by the kidneys, sometimes causing the water to become dark or even black. By this drug all the symptoms—fever, cough, expectoration and wasting—are in some cases much relieved. But, unfortunately, it sometimes upsets the digestive organs, causing loss of appetite, vomiting and indigestion. When this occurs, a preparation of the drug with carbonic acid, called carbonate of creosote, or creosotal, which can often be well borne by the most delicate stomach, should be employed in either of the following ways:

Carbonate of Creosote, ½ oz.
Yolk of one Egg.
Syrup of Tolu, 2 ozs.

Of this, teaspoonful doses may be taken frequently during the day. To children it may be given with cod-liver oil.

Carbonate of Creosote, ½ oz.
Cod-liver Oil, 6 ozs.

One teaspoonful to be given three times a day, and the dose gradually increased to one tablespoonful three times a day.

Cod-liver Oil.—Cod-liver oil is to be regarded as a food, and not as a specific cure for consumption. It is found beneficial in all stages of the disease. The nauseous taste of the oil is in many cases a serious objection to its use. Some forms of emulsion may be used. In extreme cases the oil may be taken in capsules.

Foods.—Food should be large in quantity and very nutritious. The patient should, indeed, be overfed, but at the same time great care should be taken not to upset the digestion. Fatty foods, milk, cream, butter, suet and fat bacon should all be given in as large quantities as the digestion will bear, but it must be recollected that these, especially when combined with cod-liver oil, are liable to cause nausea and indigestion. Plenty of meat, well cooked, and combined with vegetables, bread and other starchy foods, should form part of the diet. To assist the digestion, the foods may be artificially digested before being taken, in the form of peptonized foods, and if the patient is too ill for ordinary food, these latter may be given combined with eggs, soups, meat essences, arrowroot and jellies.

Hygiene of Consumption.—All the general rules of hygiene must be carried out. The house should be well ventilated and warmed, and situated on a sandy or gravel soil, moderate exercise should be taken if the patient's condition and the weather permit; the bed-chamber or sick-room should be airy, well ventilated and kept at an equable temperature, but not too hot. The clothing should be warm, the garment next the skin being woolen, and all risk of chill should be most studiously avoided.

Much depends upon the nature of the climate in the treatment of consumption. The climate of Colorado and Southern California, and perhaps other places in the United States, has a beneficial influence upon the patient.

Tonics Are Necessary.—The following prescription is good:

Tincture of the Perchloride of Iron, 2 drachms.
Dilute Phosphoric Acid, 3 drachms.
Compound Syrup of the Hypophosphites, 3 ozs.

Two teaspoonfuls in a tablespoonful of water to be taken after each meal.

Fever of Consumption.—The fever of consumption is an important and often troublesome feature. It is important in diagnosis, for if a person's temperature should be found to persist day after day above 100° F. without any apparent cause, phthisis should be suspected; it usually takes the form of hectic fever—that is, a high temperature at night and low in the morning—so that consumption may still be present even when the temperature is normal in the morning; if it is high, the following mixture will prove useful:

(This is one dose.)

Salicylate of Soda, 10 grains.
Tincture of Lemons, 20 drops.
Water to an ounce.

A dose to be taken every four or six hours.

But if it does not rise above 100° F., it will be better to give arsenic rather than salicylate of soda, as in the following prescription:

(This is one dose.)

Hydrochloric Solution of Arsenic, 3 drops.
Syrup of Orange, 20 drops.
Infusion of Calumba to an ounce.

To be taken three times daily.

Sponging every night with vinegar and water also gives relief. Pain in the chest and the local inflammation of the lung should be treated by painting the upper part of the affected side of the chest with liniment of iodine, or rubbing it back and front with a liniment of turpentine and acetic acid; this will have a soothing effect on the cough, which will also receive benefit from the morphia linctus (P. No. 13, list A).

Night Sweats.—The night sweats may be relieved by sponging the body before going to bed with warm water or vinegar and water, and the administration of a pill of the following composition every night at bed-time:

Oxide of Zinc, 2 grains.
Extract of Belladonna, ⅓ grain.
Make a pill.

One to be given every night at bed-time.

For diarrhea, care should be taken in the administration of food, which must be light and unirritating, and a dose of the following mixture may be given every three or four hours:

(This is one dose.)
Decoction of Logwood, ½ oz.
Carbonate of Bismuth, 10 grains.
Syrup of Ginger, ½ drachm.
Water to an ounce.

To be taken every three or four hours.

Asthma.—The nervous system is the chief cause of asthma. But it is usually classed among the diseases of the respiratory system. It is clearly an inherited disease, asthmatic parents begetting children predisposed to it. It may, however, be acquired. All sorts of climates may induce the disease—dry in some, moist in others, elevated localities or low ones, inland air or seaside, one side of the street and not the other, the back of the house and not the front.

Asthma is difficulty of breathing, but difficulty of breathing is not necessarily asthma, as it may be the result of many other conditions. The difficulty of breathing is caused by a contraction of the bronchial tubes, which become so small that the air can only enter the lungs with great difficulty, and as the result of extraordinary muscular effort.

Treatment of Asthma.—In the treatment of this disease, it is necessary to give great attention to its causes. Each patient after a time learns, by bitter experience, what it is necessary for him to avoid; he finds that sleeping in certain towns or localities, going out in certain states of the atmosphere, exposure to certain smells, are sure to bring on an attack, but, above all, he recognizes that certain articles of food and drink, especially taken late in the day, must be studiously avoided.

A change in climate should be tried—from moist to dry, from inland to seaside, but, curiously the climate which suits most asthmatics is the close, smoky air of towns.

Drugs for Asthma.—The most useful drugs are those which relieve spasm, and are anti-spasmatics, and they may be given to adults in the following preparations and doses:

Tincture of Stramonium, 15 drops.
Tincture of Indian Hemp, 10 drops.
Tincture of Henbane, 30 drops.
Hydrate of Chloral, 10 to 15 grains.
Tincture of Belladonna, 5 drops.
Tincture of Hemlock, 20 drops.
Tincture of Lobelia, 10 drops.
Spirits of Ether, 30 drops.
Spirits of Chloroform, 20 drops.

Any of these may be given in a tablespoonful of water, the first two doses with an interval of half an hour, the third dose an hour after the second, and then every three or four hours until the attack is relieved.

Iodide of Potash is also useful. It can be given in five-grain doses, and continued for a week or two, in order to ward off the disease.

Inhaling Medicines.—Some remedies are found to act even more satisfactorily, and give more rapid relief to the spasm when taken by inhalation than when taken by the mouth. Stramonium is one of the most generally useful of these; the dried and powdered leaves are either smoked in a pipe or cigarette in the same way as tobacco, or the fumes of the burning leaves are allowed to fill the room, and are breathed with the air. This drug sometimes acts as a charm, giving the patient instant relief.

Of other inhaling medicines, the most useful are simple steam.

Chloroform, which should be employed with care—twenty or thirty drops may be placed in a handkerchief and thus inhaled.

Dr. N. Tucker, Mt. Gilead, Ohio, prepares an inhaling medicine, used with a patent inhaler. While this does not cure asthma, it has a most soothing effect in relieving asthmatic spasms. Time and use do not seem to have any deleterious effects. His inhaler must be used with his medicine, which gives him a monopoly, and he uses it to the best advantage, by heavy charges. But no asthmatic can afford to be without this remedy.

Hay Fever or Hay Asthma.—The cause of this difficulty lies in the irritating effect of pollen of certain plants, especially the flowering grasses which are blown about in the air, and is almost limited to the months of June or September, to those subject to it year after year. Its symptoms consist in excessive irritation of the eyes, nose and the whole of the air passages, producing in succession itching of the eyes and nose, violent attacks of sneezing, profuse discharge from the nostrils, pricking sensations in the throat, cough, tightness of the chest and difficulty of breathing.

The proper treatment is to avoid the cause during the months in which the disease is prevalent. The sufferer should remain to a great extent within doors. Bright sunlight should also be avoided, as it increases the irritation, and a respirator may be worn. Cold shower or swimming baths are useful, and tonics of quinine and iron (Pr. No. 6, list A); and lotions of carbolic acid, eight grains to an ounce of water; quinine, two grains to the ounce of water; and cocaine, ten grains to an ounce of water, may be used as a spray to the eyes, nose and throat.

Where to Go to Get Relief.—Hay fever victims find relief by going to some locality where but little dust or pollen floats in the air. Eastern people go to the White Mountains; those in the Middle West find it convenient to spend their time from the last of August until the frosts come, in Northern Michigan.

Tucker's remedy, mentioned under asthma, will relieve the asthma of hay fever, and give some relief in other ways. Temporary relief may be had by warming a small bottle containing a little tincture of iodine, and inhaling the vapor.

CHAPTER XXIII

DISEASES OF THE ORGANS OF CIRCULATION

Outline of Diseases of Circulation—

Disease.	Pain.	Palpitation.	Pulse	Chief Symptoms.	Cause.
HEART DISEASE ORGANIC	Not marked.	Not severe.	Irregular.	Imperfect circulation.	Rheumatism and cold.
FUNCTIONAL.....	In some cases.	Severe.	Rapid during attacks.	Heart trouble in attacks.	Disease of other organs.
ANGINA PECTORIS	Excessive.	—	Rapid.	Great pain and faintness.	Degeneration.
GRAVE'S DISEASE........	—	Very severe.	Rapid and weak.	Palpitation and protruding eyes.	—
ANEMIA...........	—	On exertion.	Quick on exertion.	Paleness and weakness.	Poverty of blood
ANEURISM........	Gnawing.	—	Different on two sides.	Pressure symptoms.	Strain and degeneration.

Call the Doctor.—Most of the diseases of the heart are of too serious a nature for home treatment, and require for their recognition special means of examination which can be used only by one who has been trained in the use of the stethoscope; their diagnosis must therefore always be left to the doctor, and the treatment carried out under his supervision.

Pain in the Heart Region.—Pain in the region of the heart often causes a great deal of very unnecessary alarm. It is an important fact that many of the most serious forms of heart disease are frequently perfectly painless, and their symptoms are such as in no way to direct the attention of the patient to the heart.

Persons who have Undiscovered Heart Disease are in a very dangerous condition, as any sudden effort or exertion, as lifting a weight or running to catch a train, might prove fatal suddenly.

from the extra strain upon the heart. If those who are thus affected are forewarned of their danger, such risks might be avoided, and also the various remedial measures may be used, from which very great benefit may be obtained in many cases. Although pain in the heart region may be due to disease of that organ, it is far more likely to be due to something wrong with the stomach, some form of dyspepsia, flatulence, acidity or heartburn. The pain may also be due to some injury causing bruise or strain of the muscles of the walls of the chest, or to a rheumatic affection of the muscles. It is, therefore, well to remember that pain supposed to be in the heart is most probably only due to some far less important cause.

TROUBLES OF HIS OWN.

Angina Pectoris, or "Breast Pang."—There is, however, one terrible form of heart disease which is accompanied by the most acute anguish; this has received the name of breast pang or angina pectoris. The patient is suddenly attacked with the most violent spasm of pain in the heart region, which is described as stabbing or crushing; it spreads over the chest and abdomen, and very often extends up into the left shoulder and down the left arm. It is accompanied with a sense of extreme faintness, intense anxiety and feeling as of approaching death. The face wears a drawn, anxious expression, and is pale or blue and covered with a cold sweat, and the pulse is usually small and rapid. It may occur at any time. Indigestion resulting from over-eating and drinking, or from eating rich and indigestible food, is a very common cause of this terrible disease, an attack of flatulence or distension of the stomach being almost certain to bring on an attack in those predisposed to it.

Symptoms of Angina Pectoris.—The terrible pain of this affection may be due either to a sudden spasm or cramp of the heart muscles, the suffering of which can be readily understood by those who have suffered from a similar condition due to cramp of the muscles of the limbs, or cramp of the bowels in an attack of colic. The pain may be a true neuralgia of the heart. The specially intense pain and dread can be accounted for by the importance of the organ affected.

The Course of This Disease is exceedingly variable. Sometimes the first attack is also the last, and causes death suddenly.

In others the attacks may return at intervals spreading over many years. They may begin by slight spasm, and recurring at irregular intervals, may gradually grow more and more severe until they end in death. They may last for years, gradually growing less and occurring at longer intervals until they quite disappear.

The fatal cases are most likely to be those which complicate organic heart disease, and those ending finally in recovery will probably be those due to gout, indigestion and other preventable causes. However, the disease must always be looked upon as very dangerous, and any man affected by it must be prepared for his life to terminate suddenly in an unusually violent attack.

The Sheet Anchor for Anginal Patients.—We can easily understand that any one who suffers from angina pectoris will be anxious to hurry on to the treatment of the disease. Can anything be done to relieve the terrible anguish and feeling of approaching death which are so characteristic of the attacks? And is any treatment of any use in curing the disease? Many drugs and forms of treatment give relief; but one drug is, *par excellence*, the sheet anchor for the anginal patient, and that is, *nitrite of amyl.* It is a highly volatile liquid, of a yellowish color, and with a very peculiar sweet odor, strongly reminding one of the smell of pear drops. If a few drops of this liquid are inhaled, flushing of the face, quickening of the pulse and some oppression of the breathing are produced. If used in this way during an attack of angina, it gives instantaneous relief in the vast majority of cases. Its effect is so rapid and the dependence upon it so complete, that those who have once made use of it can look forward to the occurrence of an attack without dread, and are almost willing to bring on a spasm for the sake of an experiment, with the full conviction that they can cut it short at will.

Sufferers from angina should always carry a bottle of this drug in the pocket, or, what is still better, should have a few of the nitrite of amyl capsules; these are little glass tubes containing about five minims of the drug, and are wrapped up in a covering of thin, porous material. For use they are placed in the handkerchief, crushed, and the vapor then freely inhaled. If the patient prefers to help himself from the bottle, two to eight drops is the necessary dose. As the drug is very powerful, great care must be taken in its use, an overdose causing suffocation, convulsions and death. For this reason the capsules are strongly recommended, as then an overdose is impossible.

Nitro-glycerine is another useful medicine, ranking next in importance to *nitrite of amyl;* it is a powerful explosive, and forms the active ingredient of dynamite; the dose is $\frac{1}{100}$ grain, and tabloids containing this quantity can be obtained, one of which may be taken every three or four hours. If the attack has been caused by indiscretion in diet, the stomach being burdened by undigested food, an emetic of mustard—one tablespoonful to half a tumbler of warm water—will give relief; or if there is troublesome flatulence; a mixture containing peppermint, ether and sal volatile, in proportions similar to the following mixture, will be suitable:—

(This is one dose.)
Sal Volatile, ½ drachm.
Sulphuric Ether, 20 drops.
Peppermint Water, ½ oz.

To be taken every half-hour until relieved.

When cold has been the exciting cause, warmth should be applied, hot water and rubbing to the feet and hands, and hot bottles to the body, or hot poultices to the chest.

During the intervals of the paroxysms, the greatest attention should be given to avoid the exciting causes, violent emotion and mental excitement, bodily exertion, exposure to cold, and indigestible food. Gout and indigestion should be treated, and the general health be improved by good hygiene and tonics.

Fainting—Treatment.—The symptoms are due to want of blood in the brain, so that we must proceed at once to supply this want; and the best way to do so is to place the brain on a level with the heart, so that the blood will naturally flow into it with less difficulty. The patient must be laid down quite flat, and the head should not be raised or supported at all.

Anything tight round the neck and chest should be loosened, and a little cold water sprinkled over the face. Fresh air is most important, and all crowding around of the onlookers should be prevented. Smelling salts, sal volatile and fanning the face are useful. The hands, feet, temples and heart region may be rubbed with some spirit, and a stimulant drink administered.

If the faintness continues long, the doctor should be sent for as other measures for restoration may be required. It is also important that a doctor's opinion of the condition of the heart should be obtained if the fits are severe or of frequent occurrence. It is hardly necessary to add that if the syncope occurs as the result of hemorrhage, the bleeding should be stopped without a moment's unnecessary delay.

The general treatment consists in giving up those habits which tend to produce ill-health; healthy outdoor exercise is most valuable, and probably the bicycle will cure many young ladies of fainting fits. Anemia, constipation and organic diseases must be relieved by appropriate means.

Organic and Functual Disease of the Heart.—The diseases of the heart, like those of all organs of the body, can be divided into two classes — *organic* and *functional*. Palpitation, or a violent action of the heart; feeble action due to weak heart; and various alterations of the pulse in frequency, rhythm and force, are the most prominent symptoms.

Palpitation of the Heart. — Palpitation of the heart is an increased frequency of the heart's action, with violent, sudden and often irregular beats. This is occasionally sufficiently violent to shake the whole body, and produces grave suspicion in the mind of the sufferer that the heart is diseased. Palpitation does certainly occur in many organic distresses of this organ, but, curiously, in those cases it often passes unobserved, while the palpitation of purely functual origin is very appreciable. The breathing is often hurried and difficult, and is accompanied by a sensation of choking, or lump in the throat. This condition is very frequently due to some irritation acting on the nervous machinery which controls the heart, and which is affected indirectly through the nervous system, stomach or blood. Mental excitement may produce it. Hysterical young women are very prone to such attacks. The stomach being supplied and controlled by the same nerves as the heart, is often the offender; improper food, causing indigestion and flatulency, acts powerfully as the exciting cause of an attack of palpitation. The woman who drinks constantly strong, over-drawn tea, and the man who is hardly ever seen without a pipe or cigar in his mouth, will in the four-and-twenty hours absorb a good deal of the poison.

All affections that cause poverty of the blood will induce heart-palpitation, and, curiously enough, two perfectly opposite conditions act in a similar way, for both full-blooded or plethoric and pale, anemic people are liable to palpitation. Plethora causes it by supplying over-rich and stimulating blood and thus exciting the heart to increased action, and anemia by supplying poor, watery blood which starves the heart, and therefore requires increased action in a weakened heart to carry on the circulation. Although in the majority of cases of palpitation no anxiety need be felt, it is, of course, always wise to have the heart once for all thoroughly overhauled, to as far as possible make the absence of organic disease a certainty.

In the Treatment of this condition the chief and often the only precaution necessary to prevent attacks is to remove the cause. For gout give colchicum; for anemia, iron; for debility, tonics; avoid excitement and excessive exercise, tea, coffee and tobacco; attend to the diet, and avoid the causes of flatulence and indigestion. If neglected, the condition may become chronic and even develop heart disease. During an attack the patient should lie down and keep quiet. Take plenty of fresh air, a reasonable amount of exercise, with healthy occupation, neither too sedentary so as to injure the body, nor enervating and morbid so as to injure the mind. General tonics of iron, quinine and vegetable bitters (P. Nos. 5 to 8, list A) are useful; digitalis as a heart tonic (P. No. 10, list A) and a belladonna plaster worn over the region of the heart will also assist in the treatment. We add a table showing the distinguishing points of this condition when it occurs with organic heart disease or only as a functional disorder.

Organic and Functional Heart Disease.—Palpitation occurring

With Organic Disease of the Heart	*As a Functional Disorder of the Heart*
1. Usually comes on slowly and gradually.	Generally sets in suddenly.
2. Is constant, though worse at times.	Is not constant, entirely absent between attacks.
3. Is accompanied with blueness of lips and cheeks, congestion of face, swelling of legs.	Is not accompanied with blueness or swelling, face often pale.
4. Heart action not necessarily quicker.	Heart action usually quickened.
5. Palpitation often not much complained of by patient, but occasionally attended by severe pain extending to the left shoulder and arm.	Palpitation much complained of by patient, often with pain in left side.
6. Palpitation is increased by exercise, stimulants and tonics, but relieved by rest.	Is increased by sedentary occupation, but relieved by moderate exercise, stimulants and tonics.
7. Is more common in men than women.	Is more common in women than men.
8. Beat felt in cardiac region, stronger, heaving and prolonged.	Beat abrupt, not heaving or prolonged, fluttering sensation at the pit of the stomach.

Inflammation of the Heart.—The most important organic disease of the heart is due to inflammation, as the consequence of exposure to cold, especially when that exposure results in the development of rheumatic fever.

The inflammation may affect all parts of the heart, pericardium, muscular tissue and lining membrane.

When it affects the pericardium the disease is called *pericarditis;* when the muscular tissue, *myocarditis;* when the interior, *endocarditis.* This complication of rheumatic fever is the chief danger of that disease, and is the reason why we should always be most careful to check it as soon as we possibly can. If the heart becomes involved, very serious results may follow, for which reason we should never advise home treatment for rheumatic fever, especially as by prompt and skilful measures this severe complication may perhaps be warded off.

Treatment.—The treatment of these conditions is involved in the treatment of their cause, especially that of rheumatic fever. The heart affection may require leeches applied over the heart, counter-irritation in the form of poultices, blisters or iodine, and, if the circulation becomes feeble and weak, stimulants in some form. Confinement to bed with all the general care and attention required in acute diseases, will, of course, be required. When the valves of the heart are diseased, everything goes wrong with the circulation; the blood, instead of flowing onward in one direction freely and smoothly as in health, tends to flow backwards through the defective valves in the contrary direction, and the only way in which this leakage can be counteracted is by the heart working at high pressure, more rapidly and more powerfully.

Graves' Disease, or Exophthalmic Goiter.—This is not primarily a disorder of the heart. The protrusion of the eyeballs, the enlargement of the neck and violent action of the heart are the principal symptoms of this disease. Anemia is present in most cases.

Treatment.—Excellent results may be obtained from the following:

℞. Tinct. digitalis....................1 drachm.
Pulv. potass. iodidi................2½ drachms.
Aquæ.....................q. s. ad. 2 ounces.

M. Sig. One teaspoonful three times a day after meals.

When anemia is marked the following combination may be given:

℞. Tinct. strophanthi................½ drachm.
Tinct. ferri chloridi................1½ drachms.
Aquæ....................q. s. ad. 2 ounces.

M. Sig. Teaspoonful three times a day after meals.

The iodide of potassium in ten-grain doses three times a day has proven beneficial in some cases of exophthalmic goiter.

Diseases of the Arteries.—There is one very common affection which attacks the arteries and which is found to a greater or less extent in all old people, to which the name of *atheroma* is given. The chief causes are over-exertion, the excessive indulgence in alcohol, and gout.

Aneurism.—The patches of softening weaken the wall of the vessel so that the pressure of the blood gradually stretches it, until after a time it becomes so large as to form quite a tumor; this enlargement of the artery is called an aneurism.

An aneurism, therefore, is a tumor of an artery, filled with blood, this fluid having forced itself between the coats of the artery or stretched all the coats; we must therefore look upon atheroma and all those conditions which cause it as the causes of aneurism. This disease is much more common in men than women, and is chiefly a disease of old age. Aneurism may occur in all arteries, but the aorta is the one most commonly affected; however, whatever artery is involved, the disease is most serious and will be very likely to end fatally. It should never be the object of domestic treatment; the best medical advice should be obtained, and it will generally tax all the resources of the most skilful physician to control the disease and carry the treatment through to a successful termination.

Diseases of the Veins.—The veins may be affected by inflammation (*phlebitis*) either from within as the result of irritation caused by a clot, or from without owing to the spread of inflammation from other parts, and also as the result of gout.

Varicose Veins.—Varicose veins are veins which become very much dilated and swollen. The condition may occur in veins of all parts, but is most frequently found in the legs, especially in the left one. Anything which interferes with the flow of blood through the veins is likely to bring about this condition—weakness of heart, violent straining, tight stays, garters or trusses, pregnancy and constipation. All occupations which necessitate long hours of standing, as in shop assistants and laundresses, are injurious, but walking exercise is beneficial. If the veins of the rectum become affected, they form one of the varieties of *piles*. When those of the spermatic cord are involved, they produce *varicocele*. This is more liable to occur on the left side. Varicocele causes the patient much worry, but it is, however, one of no danger and seldom leads to serious results.

Treatment of Varicocele.—The parts should be toned up with cold water by being sponged night and morning, and the veins supported with a suspensory bandage or an india-rubber ring. The treatment is completed by the moral strength necessary to forget the existence of the affection.

Varicose Veins of the Legs.—These are usually first observed about the calf or ankle, and appear more distinct, bluer and larger than usual. If not attended to, the whole of the superficial veins of the leg may become much swollen and knotted, the knots being formed at the situation of the valves of the veins. The blood becomes stagnant and bulges out the veins until they look like rows or bunches of grapes under the skin. The result is severe pain in the limb with a feeling of weight and fatigue after long standing or severe exercise, a swollen, hard condition of the parts affected, a stagnation of the circulation interfering with the nutrition of the skin, which becomes red, congested, irritable, scaly and sore, and finally breaks down and forms a varicose ulcer. If this sore place forms where the skin is thin and the veins near the surface, very extensive hemorrhage may occur, which has sometimes been severe enough to cause death. There is danger also of a portion of the blood clot which forms within the vein being loosened by sudden movement or rubbing and washed into the blood stream.

Treatment of Varicose Veins.—The treatment of varicose veins is directed more towards giving relief than with the hope of cure. When the vessels have once become much enlarged, there is little chance of their getting well except by surgical means, and many operations have been devised for this purpose.

All the causes of the disease should be avoided, and careful investigation made to discover the cause in each particular case; excessive exercise, long standing and constipation must be corrected, the heart and circulation strengthened by good food, tonics and hygiene, and the veins supported by carefully applied, equable pressure.

For the last purpose an ordinary bandage, an elastic stocking or an elastic bandage may be employed. Whichever is chosen must be applied to the whole part affected from the foot below to above the highest enlarged vein; it must be worn all day, but not at night, the patient being careful to reapply it every morning before putting the feet to the ground. The parts covered should be sponged with warm water and carefully dried every night.

Anemia.—Anemia is a disease of the blood in which it becomes very poor and watery, and is particularly wanting in the red coloring matter. This poverty of the blood may be the result of many very severe diseases, such as cancer, consumption or ague and in such cases may occur in men and women to an equal extent; but the disease to which the name of anemia is usually applied is of quite a distinct character.

Anemia or chlorosis, as it is sometimes called, is a disease of young women and girls, and is of very common occurrence among all classes.

Almost any condition which causes debility and illness may bring on anemia. Long-continued loss of blood will produce it, from whatever source the blood may be obtained. Bleeding from the nose, spitting of blood or bleeding from piles are likely causes of anemia. Long-continued and free discharges of any kind have the same result.

This is a frequent source of the disease in women, in whom, also, long-continued nursing often leads to the same result. Food when taken in insufficient quantity or of unsuitable quality, bad hygienic conditions, such as living and working in close air, without sufficient light or outdoor exercise, will all gradually produce bloodlessness by interfering with the healthy formation of fresh blood. It is also considered that the long-continued actions of certain poisons, such as lead, mercury and a few others, will cause anemia.

Symptoms.—The disease, if severe, can be recognized at a glance, and there are very few conditions with which it is possible to mistake it. The appearance of any one suffering from anemia is most striking, and probably no one can have failed to see many cases. It is one of the commonest complaints of girls engaged in shops. Long hours of fatiguing work in gas-lit shops, with air full of impurities from the lungs of many persons, often added to hurried meals of unsuitable food, are a typical predisposing cause. The pallor of anemia is very marked; the face becomes white, and in some cases almost green, from which the disease derives its name of chlorosis, or green sickness. If the lips and gums and lining of the lower eyelids be examined, they will be found to be pale and bloodless also. Debility and weakness are often extreme, the patients feel languid, heavy and disinclined to make the slightest exertion, and get tired at once if they do so. They are troubled with frequent sighing and yawning, are sleepy, dull and low-spirited. Constant complaints of pains and aches, of neuralgia and muscular soreness, of headache, backache and sideache are sure to be made.

Treatment of Anemia.—The one essential point of treatment is to supply the blood with iron, and iron only can be depended upon to bring about a cure. This drug acts like a charm, but not a sudden one, for it has to be continued for some weeks or months continuously in severe cases. There is sometimes a good deal of difficulty in administering iron; most preparations of this drug are decidedly constipating, and we must therefore first set to work to counteract this condition. The most suitable medicines are a dose every night of either the aloes and myrrh pill (five grains), or a capsule of cascara sagrada (one-half drachm), or a tabloid of the same drug, containing two grains in the solid form. These are usually sufficient, but sometimes stronger aperients may be necessary.

Another difficulty we meet with in giving iron is its liability to upset the stomach, a difficulty which is increased by the fact that indigestion, nausea and vomiting are often present as symptoms of anemia. This will prevent our commencing the iron treatment at once, until these gastric symptoms are relieved by careful dieting and by some such mixture as the following:

(This is one dose.)
Subnitrate of Bismuth, 10 grains.
Tincture of Nux Vomica, 3 drops.
Dilute Hydrocyanic Acid, 3 drops.
Syrup of Ginger, ½ drachm.
Water to an ounce.

To be taken two or three times a day, half an hour before food.

The following may now be taken as an iron mixture:

(This is one dose.)

Citrate of Iron and Ammonia, 10 grains.
Carbonate of Ammonia, 3 grains.
Spirit of Chloroform, 15 drops.
Water to an ounce.

To be taken three times a day after food.

A mixture containing a very easily digested form of iron combined with strychnia, a bitter tonic, is the following:

(This is one dose.)

Syrup of the Phosphate of Iron, 1 drachm.
Solution of Strychnia, 10 drops.
Chloroform Water to an ounce.

To be taken three times a day, half an hour before food.

In giving iron, we must not forget that the causes of anemia must be discovered, and when this is done they must be carefully avoided or removed. Food, air and exercise must receive careful attention, and all bad hygienic conditions must be corrected, both in habits and surroundings, and very often the cure will be hastened and rendered more complete by change of air and scene.

Many mineral waters are successfully used for anemia, especially those which contain iron, or what are called chalybeate waters.

Hemophilia.—There is another disease of the blood which is both curious and interesting, and about which a few words will be sufficient. This is called Hemophilia, which, freely translated, means a predisposition to bleed; the name explains the disease. Those affected bleed from the slightest injury, or even without injury. The extraction of a tooth, vaccination or the application of a leach may cause profuse and even fatal hemorrhage. The disease is undoubtedly hereditary, and is congenital—that is, present at birth. It is almost entirely found in the males of the family, although the women hand on the disease to their sons without themselves being affected by it; the fathers suffering from it do not transmit it to their offspring. It is, of course, essential to avoid injury as far as possible, and, if hemorrhage occur, to control it by pressure.

CHAPTER XXIV

DISEASES OF THE ORGANS OF DIGESTION

General Outline of Diseases, with Symptoms, of Organs of Digestion.

Disease.	Stools.	Temperature.	Special Symptoms.	Cause.
SUMMER DIARRHEA	Fluid contents of bowel	Raised	Frequent action of bowels	Heat and bad food.
DYSENTERY	With blood and slime	Raised	Stomach-ache, straining, and blood in motions	Heat and ague.
CHOLERA............	"Rice water"	Low	Cramps, exhaustion and stools	Infection.
TYPHOID FEVER	"Pea soup"	Very high	Fever, rash and stools	Infection.
	Pain.	Vomiting.		
GASTRITIS...........	Constant gnawing	After food and otherwise—mucus		In adults, from errors of diet.
INDIGESTION.........	After food	After food		In all persons, from faulty digestion.
ULCER OF STOMACH.	Tender spot	After food—bright blood		In anemic young women.
CANCER OF STOMACH	In stomach, not tender	After many days—dark blood and frothy fluid		In men after 35.
	Pain.	Jaundice.	Vomiting.	
CONGESTION OF LIVER	With tenderness in side	Not severe	Occasional	Bad habits and great heat.
GIN-DRINKER'S LIVER	Usually absent	Slight	Morning sickness	Spirit-drinking.
GALL-STONES	Most acute in attacks	Very marked	Excessive during attacks	—
PERITONITIS	Most acute, with tenderness	Absent	Constant	Exposure or accident.

Diarrhea.—Diarrhea occurs in such severe diseases as cholera, dysentery and typhoid fever, in many affections of the liver, when ulceration or inflammation affects the lining membrane of the bowels, and often in the late stages of consumption; but these forms of diarrhea are considered in their proper places, and we will here look upon it as a disease in itself. Diarrhea can be defined as a frequent and profuse discharge of loose motions from the bowels; it may vary in severity from one or two actions in the day to an almost continuous discharge. This disease is of great frequency in young children, especially at the periods of weaning and teething; it is common in women at the age of from forty-five to fifty, and in all who suffer from weakness of the digestive organs. The hot weather of summer and fall is sure to be accompanied with great increase in the number of cases, espe-cially among children.

Causes of Diarrhea.—The most common of all the causes is some error in the diet. Either the food or drink has been taken in too large an amount, or it has been in an indigestible form, or some special article has been unsuitable; all these produce an unhealthy condition of the alimentary canal. Errors of hygiene may produce diarrhea, such as poor drainage and insufficient ventilation, or residence in damp, cold and dark houses.

Medicines may be the cause of diarrhea. Purgatives and many other drugs which act as poisons, if used too freely and in unsuitable cases, may set up severe irritation, which may even pass into inflammation of the intestines. It is important to remember that poisons often show their presence in the body by diarrhea, and that in some cases where the cause of violent and repeated attacks of diarrhea has been a mystery, this fact might have proved the solution. Some articles of food are peculiarly trying to the digestive organs of certain persons, and appear to act like irritant poisons. Shell-fish, crabs, lobsters or mussels, sour, unripe fruit, and some vegetables, as cucumbers and salads, may cause most severe attacks of vomiting and purging. Bad smells or the drinking of water which has become contaminated by the admixture of organic animal matter, or decomposing vegetables, occasionally act in a similar way. Mental emotions have sometimes a powerful effect in this direction, especially the depressing passions, as grief and anxiety.

A sudden panic will operate on the bowels of some persons as surely as a black dose, and much more speedily. All persons must have recognized the powerful effect that excitement has upon the movements and actions of the bowels.

Treatment of Diarrhea.—If the attack has been brought on by some indigestible or poisonous food, the first thing to do is to assist nature in throwing it off. If the diarrhea is only a natural means to a cure, we should follow nature's lead by giving an aperient to cure diarrhea. Much harm may be done if the cause of the irritation be left undisturbed. A very common medicine and a perfectly safe one in these cases is castor oil; a tablespoonful should be administered with fifteen drops of laudanum.

Other useful drugs for this purpose are the compound rhubarb pill, five grains. Having removed the source of irritation, the following prescription will follow:

(One dose for an adult.)
Aromatic Sulphuric Acid, 10 drops.
Tincture of Lemon, 15 drops.
Carbonate of Bismuth, 5 grains.
Syrup, ½ drachm.
Water to an ounce.

A dose to be taken every hour or two until the diarrhea is relieved.

Chlorodyne is also a most soothing drug, and useful when the diarrhea is accompanied with much colicky pain and flatulence. It may be taken alone in either five or ten-drop doses every hour, as long as the symptoms are severe, or as follows, combined with either bismuth or dilute sulphuric acid:

(Each of these is a dose.)
Chlorodyne, 5 drops.
Carbonate of Bismuth, 5 grains.
Syrup of Ginger, ½ drachm.
Water to an ounce.

To be taken every hour while the pain and diarrhea continue.

Or

Chlorodyne, 5 drops.
Dilute Sulphuric Acid, 10 drops.
Water to an ounce.

To be taken evrey hour as long as necessary.

Chronic Diarrhea.—Chronic diarrhea chiefly occurs in those whose health is undermined by long-continued disease, in those who have been living on insufficient and innutritious food, or who have for years suffered from indigestion.

Treatment.—Chronic diarrhea is very difficult to cure; even when the constant discharge is stopped, it is very likely to return from the slightest indiscretion in diet or exposure to cold. To tone up the system and remove anemia, iron, arsenic, quinine and strychnia may all be employed, and to check the discharges, the mineral acids, opium, bismuth, chalk and logwood. Diet is of the very greatest importance in the treatment of all forms of diarrhea.

In chronic diarrhea the main effort should be to counteract the tendency to wasting. Exposure to cold and wet or sudden changes of temperature must be avoided, the clothing must be warm, and the extremities in particular must be protected by suitable covering. Flannel should be worn next to the skin, and a flannel bandage moderately tight round the abdomen is both advisable and comfortable. Late hours, excessive exertion and mental excitement are all injurious and should be avoided.

Constipation.—Constipation, costiveness or confined bowels is a most common trouble. A daily action of the bowels, as a rule, is required for health. Much ill-health and suffering are caused by constipation. Carelessness or neglect usually brings its own reward.

Habit is one of the most important means of maintaining regularity in this respect. It is also one of the most potent causes in the production of constipation. In this particular, the bowels are much under the control of the will.

When the calls of nature are constantly neglected, the bowels become accustomed to the irritation caused by their being overloaded. They become distended and stretched by the accumulation of their contents, and, ceasing to respond to the usual stimulus, are often irritated into inflammation, with the subsequent formation of ulcers. The habit may be easily acquired through want of leisure. Persons much occupied may be unable to attend to the matter at the suitable time. It is then forgotten, and this neglect, frequently repeated, establishes the unhealthy condition.

Sedentary Occupations are frequently the cause of costive bowels, and certain errors in diet and particular articles of food, the absence of a sufficient quantity of fresh vegetables in the food, the use of refined white bread and large quantities of milk, all act in this way in some persons.

To the habitual use of purgatives many cases of the most troublesome constipation can be traced. So long as the bowels are acting regularly, purgatives only do harm. Again, the idea that, even in those cases where aperients are required, it is necessary to take a violent purge is likely to lead to the same evil results. Temporary relief is afforded by powerful purgatives; the delicate mucous membrane of the intestinal tract is weakened thereby, a sort of chronic catarrh is induced, and the very condition sought to be removed is aggravated tenfold. In constipation, the evacuations, besides being infrequent, are solid, deficient in quantity and sometimes very offensive. They consist of dry, hard, dark or clay-colored masses.

Treatment for Constipation.—This condition is far better treated by the correction of faulty habits and attention to diet than by drugs. Care should be taken to pay the necessary visit at a regular hour every day—directly after breakfast is the most suitable—and this should be done as a routine, whether nature calls for it or not. These visits should not be paid hurriedly and without ceremony, but time should be spent over a matter of so much importance to the health. If failure results for the first day or two, success will probably follow in time, and, once established, the habit is not difficult to maintain.

Diet.—In the matter of diet, meals should be regular and animal food taken only in moderate quantities, while plenty of vegetables and ripe fruits should be eaten. Breakfast should include a dish of oatmeal porridge, preferably eaten with treacle; brown bread made of the whole meal should be substituted for white at some of the meals. Cooked fruits—as figs, prunes and baked apples—are useful, and fatty food, as bacon, fat of meat, oil and butter should be indulged in as far as the digestion will allow; and all the meals should include a large amount of fluid—water, milk and cocoa being decidedly preferable to tea, coffee, beer or spirits. A glass of cold water drunk on first getting up in the morning is found of use by some people. Regular exercise in the open air should be taken, but moderate in amount, and not of too violent a character, very prolonged and excessive muscular exertion being recognized as one of the causes of constipation. A cold sponge or shower bath is helpful in giving tone to the muscular system; a cold water compress over the abdomen will have the same effect locally on the muscles of the bowels, which may also be strengthened and the movements of their contents encouraged, by careful friction applied by the hand in the proper direction; this would be upwards on the right and downwards on the left side.

The following pill is one to be recommended as an aperient drug:

Extract of Cascara Sagrada, 2 grains.
Extract of Nux Vomica, ½ grain.
Extract of Belladonna, ¼ grain.

Make a pill. One to be taken at bedtime.

Slightly laxative pills of a similar kind to this are frequently ordered after dinner, and are called dinner pills; they usually contain aloes with other sedative and tonic drugs. The following is a good sample of a dinner pill:

Extract of Aloes, 2 grains.
Extract of Nux Vomica, ½ grain.
Extract of Belladonna, ¼ grain.

Make a pill. To be taken daily after dinner.

Vomiting.—Vomiting is a very common symptom of affections of the stomach and digestive organs, but it also occurs in other diseases of a very serious nature. The most common of these is undoubtedly improper food, or the taking of food in too large a quantity; as a result of some such indiscretion, irritation of the stomach and indigestion are set up, and the stomach, after a longer or shorter time, rejects its contents, and the disagreeable symptoms disappear. Vomiting is the first symptom in acute fevers—typhus, cholera, ague—and most of those accompanied with a specific eruption, as scarlet fever and the like.

Inflammation of the liver is another disease with this as one of its symptoms; it occurs very severely in the passing of a gall-stone.

The liver may also be the origin of the very troublesome vomiting of sick headache.

Other Symptoms.—Much may be learned by noting the time of the occurrence of vomiting, the nature of the matter ejected, and the extent and urgency of the symptoms.

If the emptying of the stomach relieves the nausea and other symptoms, the cause may be considered as likely to receive benefit from treatment. But if the symptoms preceding vomiting are not relieved by the treatment, but increase gradually, the disease must be looked upon as serious, for in such cases the disease of the brain must be apprehended.

The following table gives at a glance the chief points of distinction between brain vomiting and stomach vomiting:

Brain Vomiting.	*Stomach Vomiting.*
1. There is little or no nausea, and the vomiting continues in spite of the stomach having been emptied.	1. The nausea is relieved, at all event, temporarily, by the stomach being emptied. It returns directly food is taken.
2. There is no tenderness over the stomach, and pressure is borne without inconvenience.	2. There is tenderness over the stomach and pressure induces an inclination to retch.
3. The tongue is clean, the breath sweet and the bowels obstinately confined.	3. The tongue is dirty, the breath offensive, and there are griping pains in the stomach, with diarrhea.
4. Headache comes on early and is a prominent symptom.	4. Headache comes on after the other symptoms.
5. The stomach is emptied without effort.	5. The vomiting is preceded by retching.
6. There is no disgust at food.	6. There is complete disgust at food.

Treatment for Vomiting.—The treatment of vomiting is sometimes a very simple matter, at other times it is almost impossible to check it; this difference is caused chiefly by the fact that sickness depends upon such very different conditions. When, as we have said, it results from indigestible and irritating food, it is wisest not to attempt to check it too suddenly; indeed, sometimes much relief is felt after the action of an emetic or by drinking a large quantity of warm water: this acts by assisting the stomach to empty itself, and also by washing away any remaining food and collection of mucus into the intestines. Having emptied the stomach, the most useful drug is carbonic acid; this acts as a direct sedative to the lining membrane of the stomach. An effervescing mixture is the best way to give this, and the following, taken with a tablespoonful of lemon-juice every one or two hours as long as the sickness continues, will be found efficacious:

(This is one dose.)

Bicarbonate of Soda, 15 grains.
Tincture of Lemon, 15 drops.
Syrup, ½ drachm.
Water to an ounce.

To be taken frequently with lemon-juice while effervescing.

Dietetics for Vomiting.—If milk is borne, beef-tea can be given, then jelly, light milk puddings and solid food. Milk is more easily digested if it is mixed with an equal quantity of soda-water or taken with one part of lime-water to two of milk, or the milk may be boiled and the heavy curd removed. Koumiss or effervescing milk is very light, and will occasionally remain on the stomach when everything else is rejected, but its taste is sometimes objected to. Small pieces of ice constantly sucked often give relief to an irritable stomach.

Bismuth is also valuable; it is given in the form of an insoluble white powder, either the subnitrate of bismuth, five grains, or the carbonate of bismuth, five grains. These powders settle down on the surface of the stomach and allay its irritability; they must be given in thick fluids in order to keep them in suspension. Creosote is indicated when there is much flatulence, or in those cases where the stomach contains food which is acrid, irritating and frothy from fermentation; three drops should be given every two or three hours, but as the taste is disagreeable, it is best to use a capsule or pill. Opium or morphia are most frequently required when the stomach is so irritable as to reject everything immediately it is swallowed, under which circumstances morphia must be given under the skin, or either drug may be administered in an enema.

As additional measures, relief may be obtained from a mustard and linseed poultice, or a blister to the pit of the stomach, and the patient should be kept as still and quiet as possible in the recumbent position in a darkened room. For the vomiting of pregnancy little is required, even in cases in which it is long-continued; little harm comes to the patient, who hardly ever loses flesh. She should remain quiet in bed until after the usual time for its occurrence, avoid drinking much—especially of warm drinks, as tea, etc.—and may take two or three times a day a dose of the effervescing draught.

Vomiting Blood.—Does the blood come from the lungs or from the stomach? Vomiting of blood must also be distinguished from the coughing and spitting of blood. This is sometimes not easy, as the circumstances of the case cause the patient so much alarm and anxiety that he can not give an accurate account of the symptoms as they occurred. The following table will give briefly the most important points of distinction between the two conditions, whether from the lungs or from the stomach:

From the Stomach.	*From the Lungs.*
1. The blood is of dark color.	1. The blood is of a bright red color.
2. The blood is vomited.	2. The blood is coughed up.
3. The blood is often mixed with food and is not frothy.	3. The blood is often mixed with phlegm, and is generally frothy.

4. Is preceded by nausea and symptoms of stomach affection.	4. Is preceded by pain, difficulty of breathing and symptoms of lung affection.
5. Blood is afterwards passed from the bowels.	5. Blood does not occur in the motions.

Blood from the Stomach.—Blood may escape into the stomach gradually, small quantities at a time being slowly poured out, or it may occur with a sudden gush. In the latter case the blood will be vomited in a bright red condition, and quite unchanged by its having been in the stomach; when slowly collected, however, it is acted on by the gastric juice, its color is altered and it is mixed with food. When it is vomited under these circumstances, it is black, sooty or pitchy, or looks like coffee grounds, the latter appearance being very characteristic. The vomiting is usually preceded by nausea, a feeling of distress, weight and pain in the pit of the stomach, and other symptoms of indigestion. If the amount of blood lost is large, the patient becomes pale and faint, and the pulse weak. When the bleeding is the result of an ulcer of the stomach, it most often occurs shortly after a meal, and may vary from a few drops mixed with the food up to a quart. A certain portion of the blood will find its way out of the stomach into the bowels.

Treatment for Bleeding from the Stomach.—Bleeding from the stomach should be treated by giving the patient pounded ice freely; let him swallow it at once, without permitting the ice to melt in the mouth. This may be followed by a teaspoonful of milk or water containing fifteen drops of the spirits of turpentine. If necessary, repeat in a quarter to half an hour. Or, if these agents are not at hand, a teaspoonful of alum or tannin may be dissolved in a glass of water; give a tablespoonful of the solution to the patient every twenty or thirty minutes. Or, a half teaspoonful of tincture of ergot. If necessary, this dose may be repeated every fifteen minutes.

Appearance of the Motions.—There are certain peculiarities of the motions which are characteristic of the diseases in which they occur. Thus, in *cholera* they are like rice-water, entirely free from the coloring matter of the bile, and voided in enormous quantity.

In *dysentery* they are exceedingly offensive, very frequent and contain a large amount of slime and blood.

In *typhoid fever* they are fluid and of a pale yellow color, and somewhat resemble pea-soup; they are very offensive, and sometimes contain blood.

In *diseases of the liver,* especially those diseases in which there is a deficient formation of bile or some obstruction to the escape of this fluid into the bowel, they are quite pale or clay-colored, very offensive and of the consistency of porridge.

An uncommon condition occurs in some diseases of the liver and of the pancreas or sweetbread, in which a large quantity of liquid fat passes off in the motions.

Bleeding from the Bowels.—This should be treated by giving half a teaspoonful of spirits of turpentine in a tablespoonful of milk. Also apply cold cloths to the abdomen.

Tincture of ergot is a valuable remedy in these cases of bleeding.

Dropsy.—Dropsy is the collection of fluid in the loose tissue under the skin, or in some of the cavities of the body. It is due to the watery part of the blood oozing from the blood-vessels to a greater extent than in health, and is not taken up again into the blood. There is a very unreasonable dread in the popular mind of this dropsical condition.

Dropsy may occur whenever the heart is weakened, and the circulation is poor; also in those conditions in which the blood is poor and watery, as in anemia. In these forms dropsy is not serious. Besides the causes just named, dropsy may be brought on by three other causes: *firstly*, those acting through the heart; *secondly*, those acting through the kidneys; and *thirdly*, those acting through the liver. Dropsy may be a general condition affecting all parts of the body.

The dropsy due to kidney affection first appears in the eyelids and face, the lids become swollen and rather transparent-looking, and the face distinctly altered in appearance.

Diseases of the liver produce the form of dropsy called ascites, when the fluid is poured into the peritoneal sac. The amount of fluid may be very great in extreme cases, the legs becoming enormous, almost like those of an elephant, and the abdomen so distended that it becomes impossible for the sufferer to move about at all from its bulk and weight.

Treatment of Dropsy.—The treatment must be directed to the removal of the cause, and it must be recognized that dropsy, of whatever kind or part, is only a symptom, and not a disease in itself. As, however, it is often a symptom of diseases which are incurable, and may be in itself often very distressing and sometimes serious, it will be necessary to know what may be done to relieve the symptom as well as the disease which causes it. Much good may be done and a cure expected in those cases of dropsy which occur in anemia and in weakness of the heart's action, apart from disease of that organ. Iron for the anemia, and tonics (as digitalis and strychnia) for the heart, will be sure to do good, and the following prescription may be used:

(This is one dose.)

Citrate of Iron and Ammonia, 10 grains.
Solution of Strychnia, 3 drops.
Tincture of Digitalis, 5 drops.
Spirit of Chloroform, 20 drops.
Water to an ounce.

To be taken three times a dav after food.

To remove dropsy of the abdomen, which is usually due to disease of the liver, a very useful preparation is the resin of copaiba; fifteen to twenty grains can be administered three times a day in a tablespoonful of almond emulsion, or, as its taste is very disagreeable, it may be taken in capsules. The drug acts powerfully on the kidneys and increases the flow of water from them, and thus drains away the dropsical fluid; it should, however, never be given when there is any affection of the kidneys. For similar cases a pill made up of mercury (two grains), squills (two grains) and digitalis leaves (two grains) is very useful.

For the general dropsy resulting from kidney mischief, our aim is to keep the kidneys, skin and bowels acting freely; the kidneys being unfitted to do any extra work, the two latter have to be chiefly depended upon. To increase the amount of sweat the best means are hot baths—water, air, vapor or Turkish; gin and hot water and the spirits of juniper are useful remedies; and as purgatives those drugs which increase the flow of water into the bowel should be chosen, as the cream of tartar, two or three drachms, with one-half drachm of the tincture of jalap.

The treatment of dropsy should usually be carried out under the guidance of a doctor.

Dropsy may be greatly relieved, temporarily, by tapping. This is the drawing off of the dropsical fluid through tubes.

Colic.—Colic is the name given to sudden and violent attacks of pain due to a contraction or spasm of the muscles of the bowels; it is one of the commonest forms of stomach-ache. The bowels are usually much distended with wind and obstinately constipated, a constant desire being felt and many fruitless attempts being made to gain relief by obtaining evacuation of their contents. Vomiting and diarrhea may, however, occur in some cases. The attack may last only a few minutes, or it may continue for days with occasional severe spasms, each lasting for only a short time; after the acute attack has passed off, or been relieved by appropriate treatment, a certain amount of soreness and tenderness remains behind for some days. Great relief is always felt after an action of the bowels or the ejection of wind.

Treatment.—Warmth applied to the abdomen is most useful, either in the form of a large hot linseed poultice, a hot flannel, a hot bath, a hot-water bottle, or any other means that may suggest themselves at the time.

Morphia will give almost instant relief, one-fourth grain. The same dose given as a hypodermic injection would, however, act more rapidly. Relief may also be quickly obtained by giving a large enema of a pint to a pint and a half of warm water. The acute suffering having passed off, the cause of the irritation may be removed by a good purge—a couple of compound rhubarb pills, followed, if necessary, by a draught of Epsom salts.

To prevent the repetition of such an attack, the food must be regulated, and it must be light and easily digested; the bowels must be acted upon daily, and care must be taken to avoid the recognized causes. Those liable to such attacks may be benefited by wearing a flannel roller round the stomach, and thick woolen stockings to keep the feet warm.

Acidity.—Acidity is most frequently used as equivalent to acidity of the stomach, or heartburn, but may be employed in a much wider sense, and refer to a general excess of acid in the system. In heartburn there is a hot, scalding sensation in the stomach which is accompanied by the rising of an irritating acid fluid into the throat, causing an uncomfortable burning feeling in this situation, and in the course of the gullet.

Causes of Acidity.—It may occur from two opposite conditions—either from an excessive secretion of the acid gastric juice, or from an insufficient quantity of this fluid and a consequent acid fermentation in the undigested food.

It is caused by sedentary habits and occupations, insufficient exercise and fresh air, or by over-indulgence in animal food and heavy drinks.

Women in the later months of pregnancy are also often troubled with heartburn.

Treatment of Acidity.—In the treatment of an attack of heartburn the drugs required to relieve the discomfort are not the same that should be used to remove the liability to its return. Half a teaspoonful of sal volatile or a good pinch (fifteen grains) of bicarbonate of potash or soda will very rapidly relieve the discomfort. One of the soda mint tabloids will have a similar effect. An ounce of lime-water or half a teaspoonful of magnesia may be used for the same purpose; lime-water if diarrhea is present, and magnesia when there is constipation.

For the permanent cure of the complaint, however, the following mixtures should be taken for a week or ten days; the bismuth mixture is especially suitable for cases in which there is catarrh of the stomach and indigestion. When the symptoms have been relieved by the use of the first mixture, the acid mixture may then be used.

Subnitrate of Bismuth, 10 grains.
Tincture of Rhubarb, 1 drachm.
Syrup of Orange, 1 drachm.
Infusion of Gentian to 1 ounce.

To be taken three times a day, half an hour before food.

Or

Dilute Hydrochloric Acid, 15 drops.
Syrup of Orange, 1 drachm.
Infusion of Gentian to 1 ounce.

To be taken three times a day, half an hour before food.

The diet should, at the same time, be simple and of limited quantity, all fatty, sweet and starchy articles of food being taken very sparingly, and alcoholic drinks being altogether avoided.

Flatulence.—Flatulence is wind on the stomach. The wind given off from the stomach is usually both tasteless and odorless, but instances are not rare in which it has a most disagreeable taste and smell, as of rotten eggs; this is always the result of decomposition of the food in the stomach and the formation of a gas called sulphuretted hydrogen.

If a tablespoonful or two of peppermint water is taken during the attack, it is almost sure to result in the dispersion of the flatus and in immediate comfort to the patient.

Treatment.—Charcoal may be taken as a powder, of which from five to ten grains would be required; or a tabloid of charcoal may be used. Creosote should be taken in the form of a capsule containing two or three drops of creosote. A glassful of hot water, or a teaspoonful of sal volatile in half a wineglassful of water, or fifteen to twenty drops of spirits of chloroform in water may be given—either, not all.

A few drops of essence of ginger in water is a popular preparation. One or two of the soda mint tabloids, or five drops of chlorodyne in a teaspoonful of water (or in a capsule) may be taken. If the wind distends the bowels more than the stomach, a warm water injection containing turpentine will remove it.

This trouble may often be cured in hysterical women by a mixture containing nux vomica, bismuth and soda, and when occurring in old persons, by one containing hydrochloric acid and a preparation of pepsin. Both of these are best taken shortly before food. The following are suitable prescriptions:

(Each is a dose.)

Bicarbonate of Soda, 15 grains.
Tincture of Nux Vomica, 15 drops.
Carbonate of Bismuth, 5 grains.
Syrup, ½ drachm.
Water to an ounce.

To be taken shortly before food.

Or

Dilute Hydrochloric Acid, 15 drops.
Acid Glycerine of Pepsin, 1 drachm.
Tincture of Lemon, 20 drops.
Water to an ounce.

To be taken before food.

Offensive Breath.—In health and with ordinary cleanliness the breath is quite free from smell, but under certain circumstances and in some diseases it may become most unpleasant. Want of cleanliness in washing the mouth and teeth, and neglect to free them daily from all particles of food, is a common cause of this condition. Careful cleaning of the teeth should form part of the daily toilet in all, but is of especial importance in those who wear any false teeth, or whose teeth are affected by decay. Offensive breath occurs in some diseases of the nose, in bad sore throats, in scurvy and in all conditions in which there is fever. It is a symptom of indigestion, and generally accompanies constipation, and is common also in women at certain periods; but, above all these conditions, it is found in an extreme degree in mortification or gangrene of the lung. The breath of inveterate smokers, or those who chew tobacco, often becomes tainted by the habit; the dram drinker's breath becomes impregnated by the heavy, vinous, disagreeable odor of alcohol.

When originating in the mouth from uncleanliness merely, daily attention to the teeth and the use of the following mouth wash will be sufficient to remedy it:

Boracic Acid, 15 grains.
Tincture of Myrrh, 15 drops.
Compound Tincture of Lavender, 15 drops.
Rectified Spirit, 10 drops.
Water to an ounce.

The mouth wash to be mixed as desired with warm water.

When the teeth are decayed, they should at once be examined by the dentist, and the necessary attention be given them; if sore throat is the cause, gargles containing sulphurous acid should be used; if the stomach is the offending organ, charcoal biscuits or tabloids should be taken, and the suitable measures adopted tc relieve indigestion and constipation. Smokers should use some sweet-scented compound.

Diseases of the Stomach—Inflammation of the Stomach—Gastritis.—The symptoms of inflammation of the stomach include pain, which is almost always present; the patient may complain of a sensation of burning or gnawing, only at the pit of the stomach; or there may be very severe suffering and great tenderness upon pressure; the pain is always increased by taking any food, which also sets up vomiting. The sickness, however, may occur, and is often very troublesome, when the stomach is quite empty; at first, any food which is in the stomach is rejected, and, when this has been got rid of dry retching may continue for some time, or a large amount of mucus secreted in the stomach is brought up; if the retching is long continued, bile or even blood is mixed with the mucus. There is always severe thirst and dryness of the mouth, with a disagreeable metallic taste. At other times there may be a desire for food, and the feeling that food will relieve the discomfort, but, when taken, it is at once rejected, and no relief obtained. Constipation is an almost constant accompaniment, except when the bowels are affected also by inflammation, and fermentation is rapidly set up in any food which may be retained. Headache occurs. The patient feels weak, faint and ill, and fit for nothing but to go to bed.

Treatment of Gastritis.—For treatment the best plan is certainly to remain in bed and keep perfectly quiet. At first no food should be taken, so as to give the stomach perfect rest for some hours; to relieve the thirst small lumps of ice may be allowed, and then teaspoonfuls of iced milk. If this is retained, iced milk or milk and soda-water may be taken in tablespoonfuls. As the condition of the stomach begins gradually to improve, a little variety may be permitted—chicken or mutton broth and beef-tea in small quantities, gradually passing on to minced chicken, boiled fish, and other easily digested solid food; however, solid food of any sort must be given with the greatest caution. In the most severe cases it becomes necessary to starve the patient altogether for a time. Injections of warm water or soap and water are the best means of overcoming the troublesome constipation, as medicines are likely to be refused by the stomach, like everything else. To soothe the pain morphia is of great value, and this can be combined with bismuth to allay the irritability of the stomach.

(This is one dose.)
Solution of Hydrochlorate of Morphia, 10 drops.
Carbonate of Bismuth, 5 grains.
Mucilage of Gum, 1 drachm.
Water to a tablespoonful.

To be taken every two hours as long as the pain continues.

Morphia can perhaps be better administered under the skin. Another very sedative medicine is the alkaline effervescing mixture (P. No. 19, list A), to which five grains of the carbonate of bismuth may be added. Warm applications to the pit of the stomach, as linseed poultices and fomentations, are comforting and grateful, and may be continued until the pain and tenderness pass off.

Diseases of the Bowels—Inflammation.—Inflammation of the bowels—*enteritis*—is sometimes called *gastric fever*. It may be brought on by indigestible food, such as unripe fruit, or similar irritating substances, and is frequently caused by cold, damp or exposure to sudden changes of temperature. It is most prevalent in summer, but it sometimes appears almost an epidemic.

A wound or injury of the bowels is always followed by some inflammation, although this is usually localized. It is a most common affection of children, mostly affecting them during the period of teething. When once it has been produced, by whatever cause, it is very liable to return upon slight exposure.

Symptoms of Enteritis, or Gastric Fever.—The symptoms, which vary much in severity, come on rapidly, with feverishness, quick pulse, hot, dry skin, furred tongue and some headache. The appetite fails, nausea and vomiting occur, and a good deal of pain and tenderness all over the abdomen are complained of, but especially about the navel. Either constipation or diarrhea may be present, the latter most commonly at some stage of the disease; the motions then are frequent, fluid, pale and mixed with slime. Inflammation of the bowels usually passes off and ends in complete recovery; in debilitated persons, however, or in exceptionally severe attacks, it may end fatally, or it may partially subside and become chronic, lasting an indefinite period.

Treatment of Gastric Fever.—The patient should always go to bed in a warm room. Milk is the best food; if given with soda-water, it is soothing to the inflamed parts, or lime-water may be given instead of soda-water. Beef-tea and other meat extracts may be given carefully, and stopped at once if the diarrhea is increased. The thirst is much relieved by sucking ice or sipping iced water and lemon juice. If the disease is the result of cold, the skin should be freely acted upon and perspiration produced. Poultices and fomentations applied to the abdomen thoroughly hot will relieve the pain. The bismuth mixture can be highly recommended in these cases, and it may include morphia if that drug is required. If indigestible food has been the exciting cause, the treatment should be commenced with an aperient; a powder of calomel, two grains, and compound rhubarb powder, fifteen grains, would be a suitable prescription. To complete the cure and improve the digestion, the hydrochloric acid mixture should be given three times a day half an hour before food (P. No. 18, list A). To prevent a return of the disease, the food must receive careful attention, and all exposure to cold avoided; warm clothing and a warm band around the body should be worn.

Diseases of the Liver—Inflammation.—Inflammation of the liver—*hepatitis*—of the acute variety is not a common disease in a temperate climate.

It is caused by exposure to great heat and changes of temperature, by irregular habits and by spirit-drinking.

Dysentery and inflammation of the liver are closely connected. They very often occur together and appear to be caused by the same conditions. Both are frequently produced by exposure to the poison of malaria.

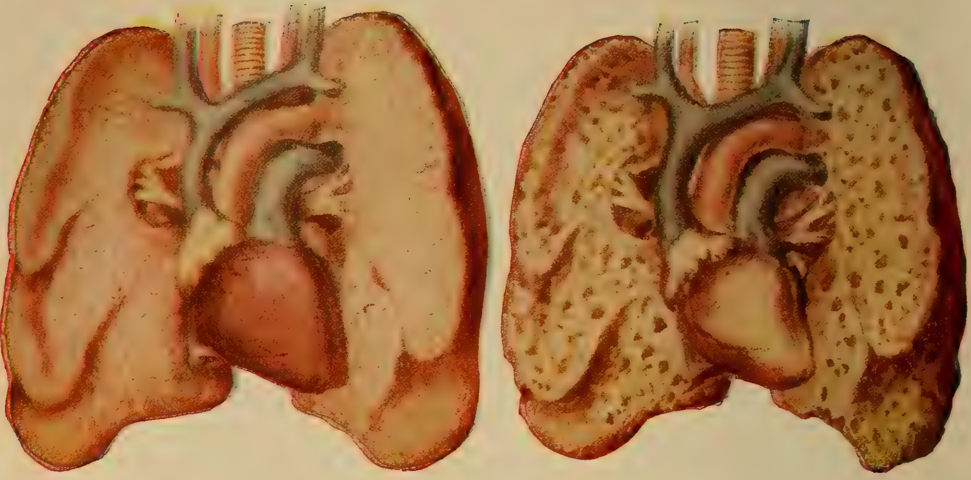
Symptoms.—The disease usually commences with shivering and chilliness, and other symptoms which accompany fever—namely, high temperature, quickened pulse, thirst, scanty, thick urine, furred tongue and loss of appetite.

Bowels are frequently loose, and vomiting is a common symptom, a large quantity of bile being brought up. A troublesome cough is also common.

Local symptoms, pain over the liver, which is a dull, heavy, dragging pain when the deeper parts are chiefly affected, and a sharp and stabbing one similar to that felt in pleurisy indicates inflammation of the surface. It is increased by lying on the side and in taking a deep breath, and usually complaints are made of pain in the right shoulder. The liver can be felt to be enlarged, and distinct fulness seen; it is also very tender on pressure.

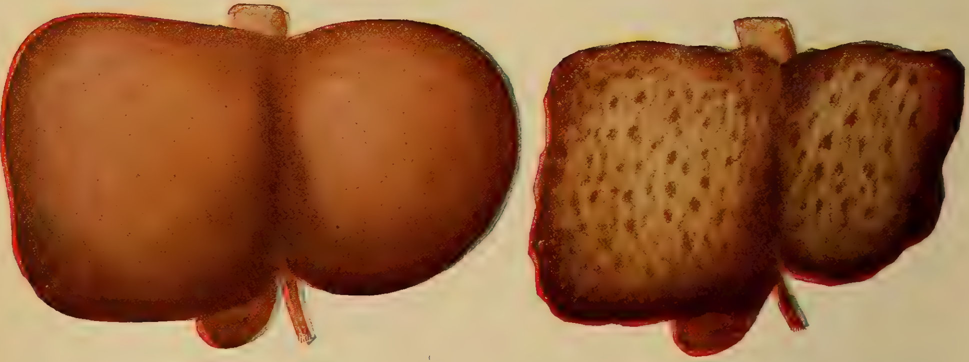
The disease lasts from three to ten days, and usually terminates favorably.

Locally, this affection must be treated with hot linseed poultices and other hot applications. The bowels must be kept



The heart and lungs in a healthy condition.

The heart and lungs of a boy who died from the effects of cigarette smoking; showing the shrunken condition of the heart and the nicotine sediments in the lungs.



The liver in a healthy condition.

Gin drinker's liver (cirrhosis of the liver) or hobnailed liver; the result of chronic inflammation set up by the excessive use of spirituous liquors, which act as powerful irritants causing the above condition and death.

PLATE No. 1.

Showing the effect of cigarette smoking and of intoxicants on vital organs.

freely acted upon. While the fever lasts a simple mixture to keep the skin, bowels and kidneys acting should be taken.

(This is one dose.)

Solution of Acetate of Ammonia, 1 drachm.
Sweet Spirits of Nitre, 20 drops.
Epsom Salts, 20 grains.
Citrate of Potash, 5 grains.
Chloroform Water to 1 ounce.

To be taken three or four times a day.

To which, later, a few grains of iodide of potash may be added with benefit. The food must be light, and consist of farinaceous substances and milk, and the patient should keep quiet in bed at first and later be confined to his couch. During convalescence the diet must be more nourishing and taken in larger quantity; tonics must be given. The following, containing nitrohydrochloric acid and dandelion, can be recommended:

(This is one dose.)

Dilute Nitrohydrochloric Acid, 10 drops.
Fl. Ext. of Dandelion, ½ drachm.
Chloroform Water to 1 ounce.

To be taken three times a day.

Gin-Drinker's Liver.—Gin-drinker's liver (cirrhosis of liver), or hobnailed liver, as it is also called, from the irregularity and roughness of its surface, is the result of chronic inflammation set up by constant and excessive indulgence in spirits. All alcoholic drinks which are taken into the stomach must pass through the liver after being absorbed by the veins. They act as powerful irritants to this organ.

Although the disease is called gin-drinker's liver, it is often produced by other spirits, as whisky, brandy, wine, beer and the like.

Causes of Cirrhosis of the Liver.—Cirrhosis comes on very gradually, sometimes taking many years before it shows its presence by distinct symptoms, but its progress is sure. Although liquor drinking is the usual cause, it can not be said to be the only cause of cirrhosis of the liver, as cases have been met with in persons who have been temperate in their lives.

Treatment.—The case may end by exhaustion, weakness and wasting, gradually growing extreme; or from dropsy, hemorrhage or diarrhea; or from an attack of some acute disease which the body is too weak to withstand.

The one essential for successful treatment is, of course, total abstinence from all alcohol; when this is hopeless, or is adopted too late, the general health must receive attention. The diet must be simple, and some stimulating tonic given to improve the tone of the stomach, as:

(This is one dose.)

Tincture of Nux Vomica, 10 drops.
Tincture of Capsicum, 3 drops.
Sal Volatile, 20 drops.
Water to the ounce.

To be taken three or four times a day, half an hour before food.

Riding or walking exercise is beneficial, and change of air and scene to the seaside or some watering-place should be tried.

Biliousness.—Biliousness is a term used to explain numberless little ailments from which we suffer. The popular notion is that these attacks are due to too great a formation of bile, the result of which is a bilious attack. This idea probably gave origin to the word *melancholia*, which means black bile, as low spirits are very marked in bilious attacks.

The other symptoms are headache felt across the forehead, giddiness, nausea and vomiting, furred tongue, bitter taste, loss of appetite, and constipation. These may, perhaps, be due to a congested condition and sluggish action of the liver, but they are, in most cases, attacks of indigestion or sick headache, which is technically called *megrim*.

Certain individuals are often spoken of as "bilious." They are mostly persons of dark complexion, with sallow, yellowish skin, and are usually upset by errors in diet, and unable to take much fatty or rich food.

Treatment of Biliousness.—The proper treatment for biliousness is to starve it out. The sufferer should lie down in a dark room, from which all noise is excluded, and should take either no food at all or only small quantities of cold beef-tea, or a strong cup of tea with little milk or sugar, and a small piece of dry toast. The effervescing mixture (Pr. No. 19, list A) may be taken every three or four hours.

To avoid a repetition of such attacks, the diet must be carefully regulated. Alcoholic drinks, fatty or highly flavored foods must be shunned, and meat taken in moderation. Cold, overexertion and overwork avoided, sedentary habits altered, constipation overcome by mild medicines, and the general health attended to, the trouble will disappear.

See Megrim, or Sick Headache, under Nervous Diseases.

Gall-Stones.—Gall-stones are solid masses formed in the gall-bladder or gall-ducts of the liver. They are produced by concretion of the solid portions of the bile around some body which acts as a nucleus or focus. They may occur singly or in great numbers, even hundreds, and may be as small as fine gravel, or in masses several inches long.

So long as the stones remain in the gall-bladder they usually give no trouble, and their presence is unrecognized unless, as occasionally occurs, they set up inflammation or abscess by irritation. On the other hand, when they wander from the gall-bladder and escape along the ducts into the intestine, they produce symptoms which are really quite terrible to suffer from and to witness.

Symptoms of Gall-Stones.—The pain or biliary colic comes on suddenly with acute shooting, burning or stabbing in the right side in the region of the liver; it passes downwards to the navel, and upwards into the right shoulder. The pain is accompanied by severe rigors or shivering fits, some fever and violent vomiting. The face is drawn, anxious, pale and covered with drops of cold sweat, and the patient may become very faint, and even lose consciousness. These attacks may last two or three hours, or with less severity may continue for days. They usually come on a short time after a meal, the gall-stone being probably dislodged by the flow of bile from the liver into the intestine in the process of digestion. A few hours after the commencement of the attack, jaundice commonly becomes apparent, first in the eyes and later over the whole body, the motions become pale and the urine dark brown.

The spasms of pain usually cease as suddenly as they begin, by the stone reaching the end of the duct and falling into the bowel. If small, it passes away with the motions, and these should be carefully examined in order to discover them, but occasionally a stone may be so large as to cause obstruction of the bowels. Gall-stones seldom occur singly; one attack is exceedingly likely only to be the forerunner of others.

First Effort Must Be to Ease the Pain.—The most important symptom during the attack is pain, and to ease it morphia or opium are required in some form. Opium may be given in a pill (one-half grain), or as laudanum (fifteen drops), every three or four hours, and morphia as the solution of hydrochlorate of morphia (fifteen drops); or, better still, as a hypodermic—a one-fourth grain given with a syringe under the skin. The latter is the best method, as its action is more rapid, but it is not advisable to make use of it except under a doctor's supervision. Little tabloids are prepared of the right strength, or three drops of the ten per cent. solution may be given; but these drugs should not be administered if the patient is feeling drowsy and heavy.

A hot bath sometimes is very comforting; also hot linseed poultices and fomentations over the abdomen are beneficial.

Large draughts of hot water containing two drachms of bicarbonate of soda to the pint have a good effect.

If these measures are insufficient, chloroform or ether may be tried; twenty drops of ether should be placed in a handkerchief and inhaled; the dose to be repeated at intervals. The effects, however, should never be pushed sufficiently to produce insensibility, as this would be dangerous and is quite unnecessary.

After Treatment.—Alkaline aperient waters, such as those of Carlsbad or Vichy, are strongly recommended. If it is found impossible to visit these places, the salts of these alkaline waters can be obtained as powders or lozenges; these lozenges should be largely diluted with water. Daily exercise should be taken. The diet should be simple and nutritious; but all fats, spices and rich foods should be avoided. Healthy habits should be encouraged—early to bed and early to rise; early dinners if possible, and gentle aperients when required. The persistent use of the phosphate of sodium is rarely unsuccessful in preventing the attack of hepatic colic. It should be given in teaspoonful doses before meals, and continued for several months. The effervescing preparation of phosphate of sodium is to be preferred. Equal parts of ether and oil of turpentine in small teaspoonful doses every four to six hours is an efficient remedy. Large quantities of water should be taken at night. It should be taken very hot and swallowed slowly. Tablespoonful doses of olive oil three or four times daily will be found beneficial in some cases. If the stone becomes fixed and grave symptoms of obstruction arise, surgical measures should be resorted to.

Diseases of the Peritoneum.—Inflammation of the peritoneum, peritonitis, when acute, is a very dangerous disease. It is unsuited for home treatment, and the doctor should be sent for at once. It may be caused by wounds entering the cavity of the abdomen, by rupture or disease of the internal organs, by spreading of inflammation from other parts. In most cases, the disease begins suddenly with rigors and shivering; pain soon sets in which is terribly acute and agonizing, and is much increased by any movement of the body, by coughing or breathing deeply, and affects the whole abdomen. There is the most exquisite tenderness, so that even the weight of the bed-clothes is unbearable. Thirst is troublesome, and the tongue is furred or is red, shiny and dry. Nausea is usually present, accompanied with vomiting, which is most distressing and obstinate. The abdomen soon becomes distended with gas, constipation is common and the urine is scanty and scalding when passed. Hiccough is a frequent symptom; the respiration is quick and short; the pulse rapid, hard and small, or wiry, feeling like hard cord under the finger. The severity of the disease is shown by the patient's countenance, which has an anxious, pained expression. The majority of attacks of this disease prove fatal from exhaustion. Some, however, among the robust and previously healthy recover, and in some the disease becomes chronic.

Treatment of Peritonitis.—The treatment to be adopted while the doctor is awaited is to put the patient to bed, raise the bed-clothes, give no food, or very little, iced milk in teaspoonfuls, and pieces of ice to suck, and apply hot poultices or fomentations sprinkled with opium or spirits of turpentine.

If medical assistance can not be obtained, opium or morphia must be given to lull the pain and prevent the painful movement of the bowels—a one-grain opium pill every three or four hours, or a one-fourth grain morphia injection under the skin at similar intervals, until the patient becomes drowsy.

Peptonized injections are the best means of administering nourishment, and, if the patient becomes prostrate and collapsed, brandy and champagne in as large quantities as the stomach will retain. The symptoms must be treated as they arise. Iced milk and soda, and effervescing drinks will relieve the vomiting —warm water injections the constipation and flatulency; but constipation should not be interfered with unless it is very prolonged. As the patient passes into the convalescent stage, nourishing food must be given by the mouth in gradually increasing quantities, and tonics to restore the strength.

Indigestion.—As a rule, all rich, highly seasoned, heavy, fat or sour foods should be eschewed; uncooked vegetables, hard, dry or twice-cooked meats are bad, as well as new bread, shell-fish (except perhaps oysters), salmon and cheese. Tea is like poison to many dyspeptics, and should by all be taken with the greatest moderation.

Milk, cocoa, coffee and pure water should form the chief beverages, and be taken in moderate quantity. General hygiene is of equal importance. Moderate exercise in the open air should be taken.

Mental occupation should not be too severe or prolonged, and be such as to relieve the mind of anxiety and worry. Early hours should be adopted—early to bed and early to rise. A cold sponge or plunge bath every morning, and change of scene and air, result in great benefit. Drugs may be employed to relieve symptoms.

Drugs are also useful to aid digestion ; the gentian and acid mixture (Pr. No. 9, list A) improves the appetite and tones the stomach ; the gentian and soda mixture (Pr. No. 22, list A) removes acidity, pain and flatulence ; and a mixture of pepsin and hydrocyanic acid will be found useful to aid the gastric juice in the solution of the food :

(This is one dose.)
Acid Glycerine of Pepsin, 1 drachm.
Dilute Hydrocyanic Acid, 3 drops.
Syrup of Ginger, ½ drachm.
Infusion of Gentian to an ounce.

To be taken three times a day, half an hour before food.

Dysentery.—Dysentery, or *bloody flux*, is a disease of hot climates, and of malarious, swampy districts. There seems to be some close connection between the poison of ague and dysentery. Unwholesome drinking water and food, and sudden changes of temperature produce it. It sometimes occurs in epidemics.

The distinctive symptoms of dysentery are griping pains in the abdomen, felt also in the back and about the navel, with great straining at stool. The stools become scant and consist of mucus and blood. There is constant desire to go to stool.

Treatment of Dysentery.—In the treatment of dysentery the first thing to do is to empty the bowels of irritating substances. For this purpose take a sufficient quantity of sulphate of magnesia (Epsom salts) to saturate eight ounces of water. To this solution add one-half ounce of diluted sulphuric acid. Dose, one tablespoonful every hour or two in a wineglassful of water until the intestinal canal is emptied of its contents. Then give the following mixture:

℞.	Acidi carbolici	5 drops.
	Bismuth salicylate	4 drachms.
	Tinct. opii deod	4 drachms.
	Spts. ammonia aromat	3 drachms.
	Mist. cretæ	2 ounces.
	Aquæ	q. s. ad. 4 ounces.

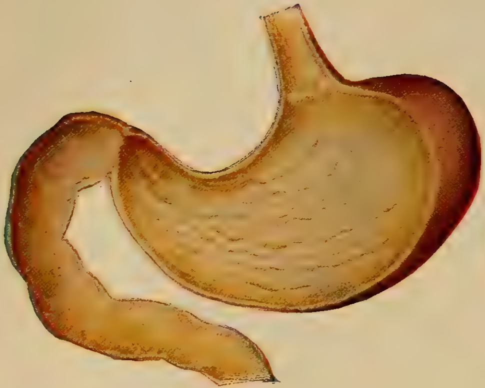
M. Sig. Shake bottle. Give one teaspoonful in water every three to four hours, according to the symptoms.

Or the following:

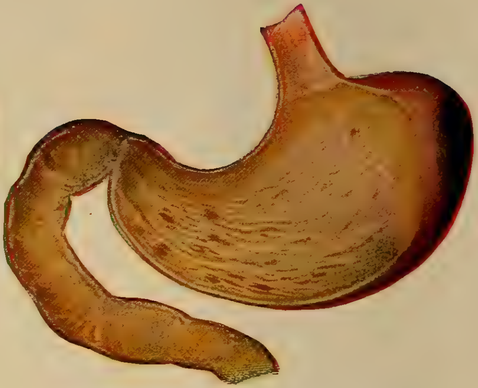
(This is one dose.)
Ipecacuanha, 20 grains.
Subnitrate of Bismuth, 10 grains.
Bicarbonate of Soda, 10 grains.
Syrup of Orange, 1 drachm.
Water to an ounce.

A dose to be given night and morning.

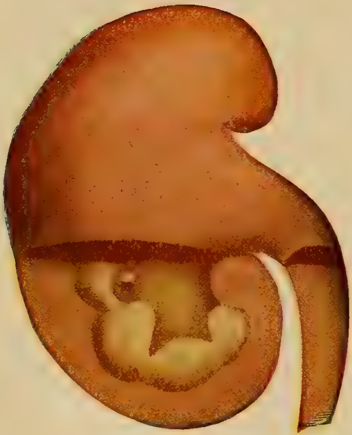
It should not be given too close to food, and is very liable to cause vomiting, to avoid which the patient should be kept very quiet and still after taking it. Ten drops of laudanum may be added to each dose if the pain is very severe or the bowels are acting with great frequency.



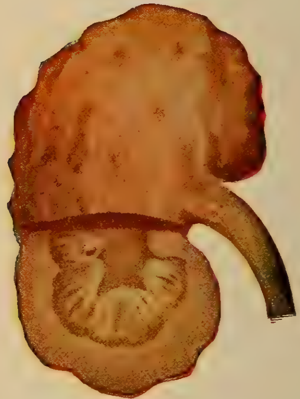
The stomach and section of small intestine in a healthy condition. (Interior view.)



The stomach of an habitual user of alcoholic stimulants; showing the mucous membrane ulcerated and deprived of its digestive powers.



The kidney in a healthy condition; the lower section showing the filtering apparatus called Malphigian pyramids.



The kidney of a man who died a drunkard; the upper portion showing the shrunken condition and sores frequently found in kidneys of hard drinkers; the lower portion showing the obstructions in the Malphigian pyramids.

PLATE No. 2.

Showing the effect of the excessive use of alcoholic stimulants on vital organs.

CHAPTER XXV

DISEASES OF THE URINARY ORGANS

Summary of Urinary Diseases with Symptoms.—

Disease.	Chief Symptom.	Other Symptoms.	Cause.
BRIGHT'S DISEASE ACUTE..........	Albumen in urine	Dropsy, scanty blood-stained urine, fever	Cold or poison.
CHRONIC......	Excessive flow of urine	Dropsy, debility	Poison, especially alcohol.
INFLAMMATION OF BLADDER......	Frequency of passing urine	Pain in abdomen, mucus in urine	Irritation of stone, etc.
STONE IN KIDNEY.	Blood in urine	Pain in loin	Special conditions of health.
STONE IN BLADDER	Frequency of passing urine	Pain in passing urine, with blood and occasional stoppage	
DIABETES..........	Excessive flow of urine	Thirst, hunger, wasting	
UREMIA.............	Convulsions	Headache, vomiting, unconsciousness	Kidney disease, etc.

Variations of the Urine in Health.—The natural amount of urine in an adult is about fifty ounces (two and one-half pints). It is increased by drinking large quantities of fluid, and in hysteria, nervousness, exposure to cold, diabetes and some diseases of the kidneys. The specific gravity is altered as the result of taking food and drink, by exercise and rest, and by the temperature of the air, but the extremes are much greater as the result of disease, some affections of the kidneys lowering it to 1,004, while in diabetes it may rise to 1,060. The specific gravity in health is from 1,018 to 1,022.

Albumen is Discovered by Boiling the Urine, which then becomes cloudy and thick, and this cloud does not disappear when a few drops of nitric acid are added. If the cloudiness disappears, it is due to the presence of phosphates and is of no importance. For this examination a small glass test-tube should be employed. It should be half filled, and then the fluid boiled by holding the tube in the flame of a spirit lamp or kerosene lamp with chimney on—a candle flame is unsuitable, as the glass becomes coated with soot. Occasionally this substance occurs in perfect health, but it is then only very transient, and is produced by a full meal consisting of animal foods, which contain albumen in large quantities. Bright's disease of the kidney in all its forms is the chief cause of permanent albuminuria, and to this subject we must refer our readers for further information.

Sugar is sometimes present in the urine, and, like albumen, must not always be taken as a sign of disease; it may occasionally appear after a full meal of starchy or sweet food, and pass away rapidly, being of no importance. When, however, it is a permanent condition, and is present in large quantities, it is a symptom of the disease known as diabetes. In this condition the urine may be passed in enormous quantities—eight or ten pints, or even more, in the twenty-four hours—has a peculiar, faint, greenish tint, a sweetish odor, and is perfectly clear; its specific gravity is raised sometimes to a very remarkable extent, being as high in some instances as 1,070. Drops of the urine leave, when they dry on the clothes, a white sediment, and the fluid very rapidly undergoes fermentation, becoming frothy and depositing yeast. The symptoms and treatment of this condition will be described with diabetes.

Uremia.—Uremia may be caused by any condition which prevents the secretion or discharge of the urine, such as all forms of Bright's disease and many other affections of the kidneys, and all conditions which obstruct the urinary passages; occasionally, also, it comes on in the later stages of pregnancy. The symptoms chiefly affect the nervous system, such as headache, sometimes very intense and persistent; loss of sight, in some cases accompanied with disease of the eyes; ringing in the ears and deafness, vomiting, difficulty of breathing and convulsions affecting a part or the whole of the body. Drowsiness, delirium and unconsciousness usually terminate the attacks, which must always be looked upon as very serious.

Treatment of Uremia.—In treatment we must do all we can to encourage the action of the kidneys, and as far as possible to relieve them from any strain or extra work. Hot fomentations and poultices should be applied across the loins; the bowels should be relieved with one-half drachm of compound jalap powder, and free perspiration produced by a hot bath and warm blankets. Plenty of hot milk should be given, but no stimulants of any sort. If the uremic attack is recovered from, the treatment must be directed to the cause.

Irritability of the Bladder.—Irritability of the bladder, with a constant desire to pass water, is a symptom of all maladies of that organ and of most that affect the kidneys. While in health, most persons find it quite sufficient to pass water five or six times a day, and not at all at night; in disease, it sometimes becomes absolutely necessary to do it every hour or so. The bladder becomes over-sensitive.

Incontinence of Urine.—Incontinence of urine is a loss of power to hold the water, which flows away involuntarily.

Diseases of the Kidneys. — **Bright's disease** includes several forms of acute and chronic diseases of the kidneys, the most important being inflammation (nephritis). It may occur either as an acute or chronic affection.

Acute Bright's Disease, or acute inflammation of the kidneys, is most commonly brought on by exposure to cold or wet when in a state of perspiration; it also occurs as a complication of many acute fevers, especially scarlet fever, and is produced by certain poisons, such as alcohol taken in excess, Spanish fly and turpentine. The onset of the disease may be sudden or gradual, the first symptom noticed being either dropsy, the scanty amount of urine, or dyspepsia. The urine is diminished in quantity, thick, opaque, and looks smoky from the presence of blood, or it may be distinctly red and blood-stained; it always contains large quantities of albumen, which is shown by coagulation on boiling, and if the sediment is examined under a microscope, blood corpuscles and casts from the kidney will be discovered. In severe cases, urine may be entirely absent or suppressed; this may cause fatal uremia.

Chronic Bright's Disease.— Chronic Bright's disease is, in most cases, the result of the alcohol habit, particularly in the form of spirits, which by long-continued irritation sets up a chronic inflammation of the kidneys.

Lead-poisoning is occasionally the cause. It attacks gouty persons also.

Usually the condition comes on gradually and insidiously. Its presence may remain undiscovered for many months. Albumen is now found either by the patient himself or by the doctor.

By good treatment the patient may be relieved, and live on for years in fair health, and able to attend to all his ordinary duties; but he has begun to go downhill, and feels he is not what he used to be.

The Treatment of Acute Bright's Disease.—The patient must be put to bed and kept there; the room must be maintained at a uniform and comfortable temperature, and well ventilated; the sheets should be removed, and he should lie between the blankets in order to avoid all chill, and hot poultices and fomentations should be at once applied across the loins and renewed frequently. A doctor should always be called in for an attack of Bright's disease of whatever variety, as all are accompanied by danger.

For this purpose plenty of simple drinks should be given, as water, milk and barley water, and a mixture administered as follows:

(This is one dose.)
Tincture of Digitalis, 10 drops.
Sweet Spirits of Nitre, 20 drops.
Solution of Acetate of Ammonia, 2 drachms.
Acetate of Potash, 15 grains.
Spirit of Chloroform, 15 drops.
Water to the ounce.

To be given every three or four hours.

This will also act upon the skin, and perspiration should be encouraged by other means, as hot baths or a hot-water pack. The bowels should be freely acted upon by one-half drachm of compound jalap powder, and their action afterward carefully regulated. The diet should consist of milk, skimmed milk, plenty of water, and light, starchy foods, and as the case improves tonics must be given, the best of which is:

(This is one dose.)
Tincture of the Perchloride of Iron, 10 drops.
Spirit of Chloroform, 15 drops.
Infusion of Quassia to the ounce.

To be given three or four times a day.

Other preparations of iron, quinine, nux vomica and other tonic and bitter drugs are useful.

The Treatment of Chronic Bright's Disease can not be looked upon as curative, but palliative only, the various symptoms being relieved as they arise and the general health maintained as much as possible.

Where possible, the exciting cause must be removed. The general health may be improved by tonics, especially iron, and good food. The diet must be simple and nourishing, only small quantities of animal food being permitted. Milk is always useful, and can be taken in large quantities; it is easily digested, nutritious and acts upon the kidneys.

The patient must lead, as far as possible, an easy, comfortable life, and must take daily exercise short of fatigue.

Warm baths are valuable to keep the skin acting healthily. A mild aperient should be used to keep the bowels carefully regulated. All risk of taking cold and bringing on a relapse must be avoided. The clothes should be warm, flannel being always worn next the skin, summer and winter, day and night.

Inflammation of the Bladder (Cystitis) affects the lining membrane, and may be either acute or chronic.

Acute inflammation of the bladder is not a common affection. It is caused by the presence of a stone, by injury in passing an instrument, by exposure to cold or damp, as sitting on a cold stone or on wet grass, and in women by displacement of the parts. The symptoms are pain in the lower part of the abdomen, with tenderness on pressure and a sense of weight. Fever is also present. The patient always complains of a constant desire to pass water, and this is done with great frequency by spasmodic contraction of the bladder, accompanied with much pain. The urine is thick from admixture with mucus and matter, and sometimes, in very severe cases, contains blood.

Chronic inflammation of the bladder is of more common occurrence. It may be left after an acute attack, but in the great majority of cases is the result of some obstruction, such as may be produced by a stone, stricture or tumor, which prevents the bladder from being completely emptied, some portion of the water—varying from a few ounces to a pint—being left behind. This sets up irritation of the lining of the bladder, and causes a formation of mucus; the urine then rapidly decomposes, ammonia is set free, and produces a strong, offensive smell, and causes still greater irritation to the bladder. Many cases of chronic cystitis are due to gout and are liable to occur upon slight exciting causes in persons predisposed to that disease.

The symptoms are similar to those of the acute disease, but less severe; one peculiarity of the chronic condition is the formation of an enormous quantity of mucus, which forms a thick, tenacious deposit in the urine if it is allowed to stand for a time.

Treatment.—Hot poultices or fomentations applied to the lower part of the abdomen and sitting in a hot hip-bath give great relief to the pain; the patient should be kept in bed while the symptoms are acute; and be allowed plenty of mild, simple drinks, as milk, barley water and linseed tea, and a wineglassful of infusion of buchu may be taken every two or three hours throughout the day. The diet should be of the simplest, and consist of farinaceous substances, while no form of alcohol should be allowed. The bowels should be acted upon, and the following mixture taken:

(This is one dose.)
Tincture of Henbane, ½ drachm.
Solution of Potash, 20 drops.
Chloroform Water to the ounce.

To be given every two hours.

If the pain is very severe, laudanum, ten drops, may be added to each dose of the medicine.

A surgeon should be called in for most cases, because in the chronic variety much benefit is derived by completely emptying the bladder with a catheter; and in all cases the cure is hastened by washing out this organ with some soothing and antiseptic solution.

Gravel and Stone.—Occasionally in a condition of perfect health, but more frequently when the health is impaired, certain substances form settlements or deposits in the urine. These deposits may only form after the urine has been passed and has been allowed to stand for some time, but sometimes the deposition takes place while the urine is still in the body, and when it is passed it is thick and turbid. Under these circumstances it is called gravel.

If the particles of gravel are deposited in large quantities, they are liable to collect together and form masses or concretions which, according to circumstances, may be of any size, from mere granules to large stones. In this way calculus or stone is produced. Of a very large number of substances which appear in the urine in this way there are three which are most frequently met with, and therefore most important; these are uric acid, oxalate of lime and phosphates.

The Symptoms of Stone in the Kidney are very slight, or quite absent, at first; but after the stone has reached a certain size it usually causes pain in the loin of the affected side which spreads from this situation over the abdomen, or down into the groin; this is usually worse after violent exercise, or if the body is jerked or shaken as by driving in a cab or riding on horseback. Blood in the urine is another common symptom; it changes the appearance of that secretion by making it simply thick and smoky.

Symptoms of the Passing of a Stone from the Kidneys.—The passing of a stone down the ureter into the bladder causes very severe pain. The pain usually comes on suddenly, and lasts from a few hours to some days, and ceases suddenly when the stone drops into the bladder.

Symptoms of Stone in the Bladder.—The water is passed in small quantities with great frequency, especially when moving about during the day. The water is always passed with severe cutting pain, which may be felt in the bladder, but is mostly referred to the orifice of the passage, and is most severe at the close of the act. Pain is also felt upon sudden movements, as in driving, riding or jumping.

The urine is usually thick, has a deposit of matter and mucus, and very often contains blood. The doctor, by passing a sounder into the bladder, can detect the stone by its being struck with the sounder.

Stone may occur at any age. In most cases of stone in the bladder only one is present, but a case is reported of a judge from whom a thousand calculi were removed. In size and weight they vary from a small grain to one on record weighing six pounds.

Treatment for Stone in the Bladder.—The treatment of the diatheses requires careful attention to the diet. In all, the digestion is at fault, and to cure this the patient must avoid all excess in any kind of food, whether animal or vegetable. To check the formation of uric and oxalic acids he must avoid fermented liquors, and abstain from sweets, pastry and fatty substances, as butter, cream and fat meat. Fish is highly recommended as a suitable article of food; milk can be taken in large quantities, and the drinking water should be soft, filtered rain or distilled water, which are free from mineral salts. He must take plenty of outdoor exercise, and keep the skin in healthy action by warm and cold baths and friction of the skin with a rough towel. The bowels must be carefully regulated; the most suitable aperient being the natural mineral waters of Carlsbad taken with hot water an hour before breakfast. These and the alkaline mineral water of Vichy are useful in removing sluggishness and torpidity of the liver. The following effervescing drink is also to be recommended:

(This is one dose.)
Bicarbonate of Soda, 20 grains.
Nitrate of Potash, 5 grains.
Carbonate of Lithia, 5 grains.
Tincture of Lemon, 15 drops.
Water to an ounce.

To be taken every morning in half a tumblerful of water with a tablespoonful of lemon juice.

The Treatment of the Phosphatic Diathesis consists principally in improving the digestive powers and in restoring the general strength by good food largely composed of animal substances, and tonics composed of the mineral acids and vegetable bitters—*e. g.:*

(This is one dose.)
Dilute Nitrohydrochloric Acid, 15 drops.
Syrup of Orange, ½ drachm.
Infusion of Gentian to the ounce.

To be taken three times a day, half an hour before food; and, as accessory measures, good air, exercise, the cold sea-water bath, and relief from anxiety or overwork.

Treatment of Stone in the Kidney.—The Carlsbad, Vichy or Ems waters are beneficial.

Uric and oxalic acids are soluble to a certain extent in alkaline solutions, and it is by making the urine alkaline that these waters act so beneficially. Here is a variety of solvent treatment: The patient, if an adult, should take forty or fifty grains of the acetate or citrate of potash in three or four ounces of water every three hours during the day, and once at least in the night. Continue this for three months. Or the following: Twenty or thirty grains of prepared chalk in mucilage and mint-water, taken three or four times a day.

The painful symptoms produced by the passage of a stone along the ureter, called renal colic, require immediate attention.

Hot fomentations and poultices sprinkled with thirty or forty drops of laudanum should be applied to the loins; or, the patient may be put into a hot bath; fifteen drops of laudanum may be given to an adult. Even chloroform may be inhaled with caution.

Stones are Removed from the bladder by two methods: *First,* by crushing and breaking up the stone into very small pieces, and removing through the urethra. *Second,* by removal through an opening made in the bladder. The operation in women is easily performed by the first method.

Diabetes.—Although this can not be strictly considered a disease of the kidneys, yet, as one of its most important and prominent symptoms is a copious flow of urine, it is most convenient to describe it in this place. Diabetes mellitus is a malady in which there is an excessive flow of urine containing sugar, accompanied with extreme thirst, hunger and wasting, and if unrelieved ends in death. It is most common in middle-aged men, although it occasionally occurs in both sexes and at all ages.

The disease comes on gradually and may remain unobserved for a long time. The patient, however, recognizes that day by day he passes an increasingly large quantity of water, that he is affected with most unusual thirst and hunger, and that, in spite of the enormous quantity of food he eats, he is wasting and losing strength.

On paying a visit to the doctor the urine is examined and is found to contain sugar; its specific gravity is greater than natural, being perhaps as high as 1,040, or in severe cases 1,060 or 1,070.

The wasting in this disease and loss of strength are sometimes very rapid, and this is hardly to be wondered at when we calculate the enormous quantities of nutritive material in the form of sugar which may be lost in a single day.

Of drugs, the most important is opium, and more particularly one of its ingredients called codeia; this is given in the form of a pill, three times a day, commencing with one-half grain and gradually increasing the dose up to two or three grains three times daily. The general health must also receive attention; gentle exercise, a warm climate, warm baths and flannel underclothes are useful accessories, the most careful precautions being taken against chills. Much improvement sometimes results from Carlsbad or Vichy, but nothing is of the slightest good apart from the dietetic restrictions.

For treatment of Diabetes, see under Dietetics, in another part of this book.

CHAPTER XXVI

DISEASES OF THE NERVOUS SYSTEM

Analysis and Symptoms of Nervous Diseases.—

Disease.	First Symptom.	Unconsciousness.	Convulsions.	Other Symptoms.	Cause.
INFLAMMATION OF BRAIN	Headache	Occurs gradually	In late stage, occasionally	Vomiting, delirium	Disease or accident.
APOPLEXY..	Stroke	Occurs suddenly	In affected part	Paralysis	Brain disease.
EPILEPSY...	Fits	Sudden, but temporary	Chiefly on one side	Cry, tongue bitten, etc.	Unknown.
HYSTERIA..	Various	Only apparent	Irregularly over whole body	Imitation of other diseases	Nervous exhaustion.
LOCKJAW...	Stiff-neck	Absent	Gradually spread over body	Wound, intense pain, exhaustion	Poison in wound.
HYDROPHOBIA........	Difficulty in swallowing	Absent	Gradually spread over body	Intense pain, exhaustion	Bite of animal.
PARALYSIS..	Of one side of body		due to disease of Brain.		
	Of lower part of body		" disease of Spinal Cord.		
	Of limited part of body		" disease of Nerves.		

Paralysis is the loss of muscular power, and, as a result, the inability to move any particular part by the action of the will; if the loss of movement is only the result of pain, it can not be called paralysis. *Palsy* is only another term for the same condition, and does not necessarily involve shaking of the paralyzed part, as is popularly believed.

Headaches.—The subject of headache appeals to all, for who has not at some time or other had to endure the annoyance and suffering that it entails?

Classes of Headaches.—

1. Neuralgic headaches.
2. Dyspeptic headaches.
3. Headaches due to affections of the circulation:
    (*a*) From too much blood.
    (*b*) From too little blood.
4. Headaches caused by poisons.
5. Nervous or sick headaches, including megrim.
6. Headaches from disease of the brain or its membranes.

Headaches may arise from too much blood in the brain, or too little blood in the brain.

Dyspeptic headaches are often called bilious headaches or sick headaches.

Headache from too Much Blood in the Brain.—In this case the blood should be drawn away from the brain. For relief, the feet should be put in mustard and hot water, and cold applied to the head by wet cloths; the bowels should be freely opened, and suitable hygienic measures adopted, such as healthy exercise, simple diet and avoidance of excitement, overwork and the absence of all alcoholic drinks.

Too little blood is supplied to the brain in anemia and general debility, from fatigue, loss of blood, exhausting discharges, or as the after-effects of a night out and over-indulgence in alcohol. The pain is chiefly felt in the top of the head, and such symptoms as pallor, exhaustion, dizziness and noises in the ears are usually present. These headaches are benefited by small doses of stimulants and food, strong tea or coffee, hot soup, or a dose of sal volatile; relief is also felt by lying down with the head low, so that the blood is supplied more freely to the brain. The patient usually requires a course of iron, combined with quinine or some bitter, as infusion of quassia (see Pr. No. 6, list A).

Headaches Caused by Poisons.—In all fevers and feverish conditions, headache is a common symptom, and is due to impure blood containing some poison circulating through the brain, and partly, perhaps, to the temperature of the fluid being itself raised.

Nervous or Sick Headache, or Megrim.—This is a peculiar and perplexing affection, and unfortunately not by any means an uncommon one. It is distinctly hereditary, and runs in families the members of which are predisposed to nervous affections of many kinds.

Headaches from disease of the brain and its membranes may be due to any of the many affections of these parts, especially to inflammation and tumor.

Neuralgia is a disease of the nerves sometimes due to inflammation, but most commonly without any apparent change in their structure. It is characterized by a stabbing, shooting or darting pain, often of great severity, which comes on in definite attacks or paroxysms.

Sciatica, or neuralgia of the sciatic nerve, affects the back of the thigh, the knee and the inner side of the leg and foot—that is, the parts to which the nerve and its branches are distributed. It is caused by neuralgia; but sitting on a damp or cold seat, over-walking, strains, injury to the nerve, and rheumatic or gouty inflammation of it are the most common. There is great sensitiveness over the nerve, the trunk of which is situated at the back of the thigh, and sitting for this reason is sometimes impossible. Pain is much increased by movement of the limb, by stooping and sneezing. The course of the disease is very variable; it may occur once and be very severe, or it may continue on and off for years, being sometimes slight, at others causing intense suffering.

Treatment of Neuralgia.—In all forms the diet is of great importance. It should be as nutritive and abundant as the state of the digestive organs will permit, and one important class of food must be well represented—namely, the fats; they may be given as butter, cream or cod-liver oil. Unfortunately, neuralgic patients have, with rare exceptions, a dislike to fatty foods of all kinds, and there is great difficulty in overcoming this. Exposure to cold and damp should be most sedulously avoided; the patient should dress warmly, should wear flannel, and should avoid going out during sudden climatic changes; cold, tepid or salt water baths, followed by friction, are useful as tonics to the skin; moderate daily out-of-door exercise should be taken. Change of air, rest, alteration of unhealthy habits, and relief from overwork and anxiety should be attended to. In attacks of tic, all forms of irritation should be shunned, as movement, cold, noise, bright light and worry; the teeth should be examined by a dentist, and all that are decayed should be stopped or extracted; regular action of the bowels should be maintained, and if intestinal worms are present, they should receive appropriate treatment. The treatment of the constitutional causes is important.

For rheumatism, salicylate of soda, ten grains, or a mixture containing iodide of potassium, two or three grains, with fifteen grains of bicarbonate of soda.

For gout, 10 drops of the wine of colchicum.

For ague, five-grain doses of quinine.

For syphilis, ten grains of iodide of potassium.

Each of which may be given in a tablespoonful of water three times a day.

For anemia, iron will be required.

Local applications are sometimes most valuable; aconite is employed, as a liniment, which may be gently rubbed in or, as the tincture, painted on with a brush, along the course of the affected nerves; belladonna may also be used in both ways. Menthol, as recommended for headache, may be tried, or the following liniment:

Chloroform, 1 part.
Tincture of Opium, 1 part.
Liniment of Belladonna, 4 parts.

Small blisters applied frequently, about the size of half a dollar, over the most sensitive spot give relief; they may be repeated every two or three days, but care should be taken not to cause too severe irritation of the skin. Morphia given hypodermically by the doctor gives instant, though it may be only temporary, relief; or he may employ galvanism; or the aid of a surgeon may be required in severe and obstinate cases, as several operations have been found useful, among which are the cutting out of a portion of the nerve or simply stretching it.

In sciatica the patient should be kept in bed, and relief from pressure may be obtained by the use of a water bed. Hot fomentations or linseed poultices should be applied; blisters are useful; or a liniment of belladonna and chloroform sprinkled on spongiopiline and laid along the course of the nerve.

Paralysis of the Face.—Facial paralysis is an affection of the facial nerve. This nerve originates in the under part of the brain, passes through a canal in the skull in close proximity to the internal parts of the organ of hearing, and spreads out over the side of the face from a point just in front of the ear, and its action is to control all the small muscles of expression. Paralysis of this nerve may be caused by disease inside the skull, by fracture of the bone through which it passes, or by disease spreading from the ear; and on the face by injury or cold. The most common and, therefore, interesting form is, however, that caused by cold.

Inflammation of the Brain.—A common cause of this affection is the spread of inflammation from some other part, and more especially from disease of the internal parts of the ear; it may be the result of injury or of sunstroke. A variety called tubercular meningitis is very common in the young, and is produced by the formation of small growths or tubercles. The symptoms usually appear suddenly, and include severe headache; vomiting, which has no connection with any affection of the stomach, nor attended with loss of appetite; great sensitiveness of the skin, eyes and ears, the slightest touch, light or noise, causing great suffering; constipation, sleeplessness and tendency to delirium. Fever is present, and may be ushered in with a rigor, quick pulse and other feverish symptoms. As the disease advances the patient gradually becomes drowsy and unconscious of what is taking place around him; this change from delirium and excitement looks to the uninitiated like improvement, but it is not so, but continues until it ends in total unconsciousness or coma. As the coma comes on the delirium becomes quieter, the pain and acute sensitiveness pass off, the temperature falls and the pulse gets slow; and as the unconsciousness gets deeper convulsions are likely to occur, during one of which the fatal termination may take place. Meningitis may last from a few days to a fortnight, and very few cases recover.

Treatment for Inflammation of the Brain.—Treatment is of very little avail. The patient must be placed in a quiet, dark, cool and well-ventilated room, and should have a skilled nurse. The doctor may advise shaving the head, and cold, leeches or blisters, and drugs to relieve vomiting, constipation and fever. Preventive measures are of the utmost importance. Studies and mental exertion should be moderate, good hygienic surroundings should be supplied, and the food should be ample and nutritious.

Apoplexy.—Apoplexy, or hemorrhage into the brain, is the result of the bursting of a blood vessel, and is the condition popularly spoken of as a "stroke of paralysis." The affection may be brought about by injury, as a fall or blow on the head, but is far more commonly the result of disease within the skull.

Symptoms.—The premonitory symptoms of the congestive form of apoplexy are flushed appearance of the face and eyes, throbbing of the temporal arteries, heat of the head, dulness, drowsiness, dimness of vision and headache. The attack is marked by sudden stupor; slow and often snoring breathing, a full, slow pulse, and a turgid appearance of the face. Total loss of consciousness may be brief. If the attack be recovered from, paralysis of the muscles usually soon passes away.

In apoplexy due to hemorrhage of the brain, the symptoms occur first in the form of a stroke. Unconsciousness is complete for a variable length of time. During this time, the breathing is what is known as stertorous (snoring), the pulse is slow and somewhat full, the head is hot, and the face more or less dark or flushed. The fulness of the blood vessels of the head is not always well marked.

Intoxication is revealed by the odor of the breath and the attendant circumstances.

In narcotic poisoning, when from opium, the pupils of the eyes are contracted; when from most other narcotics, the pupils are firmly dilated.

Concussion and compression of the brain are generally suggested by external marks of injury.

Asphyxia is usually pointed out by the condition of things surrounding the patient, the blueness of the lips, the coldness of the surface and the difficulty of breathing.

Sunstroke, in the majority of cases, is attended with a feeble pulse; in some cases it is identical with congestive apoplexy.

Apoplexy occurring in advanced life is always unfavorable, not only from the immediate danger to life, but from the fact that the mental and bodily powers are usually permanently impaired. In young patients congestive apoplexy may be entirely recovered from. So may a single attack of the hemorrhagic form, where the clot is small and the paralysis limited. Each succeeding attack becomes more dangerous; a third attack is seldom recovered from.

Treatment of Apoplexy.—If possible, stimulants must be given internally, and mustard applied to the chest and calves of the legs, or the skin rubbed vigorously. A drop of croton oil dropped upon the base of the tongue is prompt in its action, and the most convenient cathartic in these cases. The head should be raised, the hair cut short, and cold applied until the temperature becomes normal. Great delicacy of judgment will be required in deciding in different cases between the two opposite modes of treatment, in depletion and stimulation. The condition of the heart and pulse must be closely watched and our actions governed accordingly.

The patient who has a clot of blood lying in a torn and mangled brain, is not in a condition where the physician can exhibit the most striking evidences of his skill. The most that can usually be done consists in attending to his diet, excretions, sleeping and exercise.

Locomotor Ataxia.—Its cause is obscure; it often takes years to run its course, and it is incurable. The symptoms come on very gradually, and include severe shooting or "lightning" pains in various parts of the body; a loss of power to control the muscles, especially of the legs, which are thrown out when walking with unnecessary violence, and are brought down upon the ground with great force; inability to stand erect with the eyes shut or in the dark, and gradually increasing helplessness. The intellect remains unaffected, and death usually occurs from some other disease. The form of paralysis called paraplegia is of spinal origin.

Epilepsy.—Epilepsy is a terrible disease to look upon, not painful in itself, but productive of great distress and misery. It is not attended with immediate peril to life, but is liable to terminate in worse than death—in insanity, or fatuity—and carries with it perpetual anxiety and dismay. It is commonly known as the falling sickness.

When the patient is seized, he falls down, and is violently convulsed. The tonic spasm of the muscles is peculiar. He seems to be straining round toward one side, as if striving to look over one shoulder. Every limb is rigid, the muscles are strained, and, with jerking movements, one set of muscles seems to be striving against another. Breathing is arrested, the patient appearing as though attempting to forcibly hold his breath. In some cases there is an "epileptic cry" at the commencement of the attack. Paleness of the face is observed at this time, though in many cases there is a florid or dusky hue.

After about thirty or forty seconds this condition changes; the tonic spasms alter to what are known as clonic spasms. The change is abrupt and is determined by a "letting go" of the breath, which has been up to this time "held." The limbs, instead of being rigid, are thrown about; the breathing is convulsive; there is foaming at the mouth, often bloody from the bitten tongue; the jaws champ, the bladder and rectum may be evacuated; the eyeballs roll, and the general aspect is hideous. The duskiness of the surface reaches its maximum about the time the clonic spasms begin to abate; there is profuse perspiration, the veins are greatly distended, the arteries are full and the heart beats violently.

The paroxysms usually last from five to ten minutes, though the time seems much longer to a person looking on. The intervals between the attacks vary from several months down to a few hours.

The condition of an epileptic between the paroxysms is to all appearances natural; and indeed, the mind need not necessarily deteriorate. A number of famous individuals, Napoleon, Newton, Peter the Great, Byron, Cæsar and Mahomet, were epileptics.

Treatment of Epilepsy.—Fluid extract horsenettle in teaspoonful doses, before meals, three times a day, is of great service in epilepsy.

In cases characterized by frequent and violent convulsive seizures the following mixture will be beneficial:

℞. Potassii bromidi	1 ounce.
Ammonii bromidi	3 drachms.
Potassii iodidi	1 drachm.
Potassii bicarbonat	1 drachm.
Inf. digitalis	6 ounces.

M. Sig. Teaspoonful one hour after meals, and at bedtime.

The horsenettle and the bromide treatment should be continued for at least two years.

Lockjaw—Tetanus.—The muscles of the jaws are usually affected first, and then those of the face, neck and back, and in time the lower and upper extremities. It may be caused by some obscure disease of the nervous system, but more frequently is produced by an injury of some kind. Punctured wounds of the extremities, especially among the tendons of the feet, often produce tetanus.

Symptoms.—Stiffness of the muscles of the lower jaw is usually the first sign. Swallowing becomes difficult, and the muscles of the jaw become so fixed that the lower jaw is immovable. This rigidity then extends to the muscles of the neck, back and abdomen. The head is drawn backward, and the spinal cord projects forward. The rigidity may not be constant. At first it goes from one set of muscles to another, and the relaxation is complete during the remission. But as the disease progresses the paroxysms become so frequent that one is hardly over before another occurs.

Treatment.—When the first symptoms of tetanus appear a physician should be called, and while waiting for his arrival the patient may be given a hot bath and large doses of bromide or chloral.

Give one grain of opium every three or four hours, which may be increased, if thought necessary, to one grain every two hours through the day and every hour through the night. The hypodermic injection of morphine, in proportionate doses, is preferred by some physicians. Brandy or whisky, in doses of a tablespoonful every two hours, should also be given, and milk and beef-tea must be administered as nutriment.

The great necessity in the treatment is to rouse the circulation to greater activity, and to by no means depress it; an unusual amount of stimulants may be borne without any symptoms of intoxication. The local treatment of the wound is of the first importance.

Hysteria.—The treatment of hysterics is very simple. The patient must be allowed to lie down, her dress and anything tight about her neck must be loosened, and she may be left alone. She is in no danger, and will come round all in good time. If much fuss is made with her, it will only make her worse. Fanning, fresh air, salts and cold water are all useful.

But hysteria is not made up only of fits; its symptoms are strange and wonderful. They take so many forms, vary so immensely in different cases, and so mimic almost every other disease under the sun, that it will be both impossible and useless to mention half, or indeed a tenth part, of them.

Hysteria is very common, and, as we have seen from the list of its symptoms, may vary from a slight affection of little importance to one of such gravity that it renders the patient a life-long invalid, and her existence a burden and a misery to herself and those about her.

The treatment of hysteria is also very difficult, as one of the chief troubles is the sympathy and injudicious management of the case by the friends. The exercise of some firmness is essential, and this need not be done harshly, but kindly; the general habits must be attended to, and the time occupied as far as possible by healthy exercise and interesting occupations, or anything that will keep the thoughts off her own ailments.

Anemia must be relieved by iron, and debility by suitable remedies directly against its various causes. Tonics are useful in most cases, but the different symptoms must be treated as they arise, and for many cases electricity is found of very great benefit.

Hypochondriasis.—Hypochondriasis is a disease of the nervous system closely allied to hysteria. It seems to occupy among men very much the position that hysteria does among women, but is fortunately not nearly so commonly met with. It is also not far removed from insanity, and most frequently affects those whose family history is bad, and who inherit some form of nervous disease. A hypochondriac is practically a monomaniac whose special delusion is in connection with his health; he is always thinking of himself and imagining that he is suffering from some disease. At one time it is his liver, at another his stomach, that troubles him; every disease he reads about or hears of some one else suffering from he immediately thinks he has; every new medical fact he hears he applies to his own condition, and his thoughts go off at a tangent in this particular direction. He assists in filling the doctor's pocket while he exhausts his patience and ingenuity. He is a nuisance to himself and every one with whom he comes in contact, for he is entirely engrossed in his own thoughts and ailments, and his conversation is about nothing else.

Hydrophobia.—Hydrophobia is a word used to indicate the disease communicated to man by the bite of a rabid dog.

Symptoms.—The stage of incubation varies from three weeks to six months, or in rare cases one year. From the beginning of invasion of this disease the patient has a dread of water; there are restlessness and loss of appetite, and the patient becomes melancholy. About the second day tonic convulsions occur, affecting chiefly the muscles about the throat, often rendering the swallowing of water impossible, though the thirst is intense. Soon the very sight of water will bring on a convulsion, which soon recurs more and more frequently and from less marked exciting causes. After a time the convulsions involve the whole muscular system; a fear of even the best friends and indescribable despair come upon the patient. There is an abundance of sticky, ropy mucus from the mouth. If death does not occur during one of the convulsions, the paralytic stage begins about the third day, and the patient dies from exhaustion.

Treatment.—As soon as a person is bitten by a rabid dog the wound should be well sucked, then touched with pure carbolic acid, or nitric acid should be applied freely. Remedies for treatment of the disease are of no avail. The only cure is for the patient to go to New York, or the nearest institution, and have Pasteur's prophylactic injection made, and the wound treated antiseptically.

CHAPTER XXVII

DISEASES OF ORGANS OF LOCOMOTION

General Outline of Diseases of the Organs of Locomotion, with Symptoms, and the Like.

Disease.	Persons chiefly affected.	Chief symptoms.		Cause.
CURVATURE OF SPINE				
1.—Angular	Children	Pain, tenderness and stiffness in back, deformity		Disease of bone.
2.—Lateral.......	Delicate girls	Weakness of back and aching pain, deformity		General debility.
RHEUMATIC FEVER	Young adults	Fever, perspirations	Larger joints swollen and hot	Cold.
RHEUMATIC GOUT.	Middle-aged women	Attacks of pain	Smaller joints deformed and stiff	Unknown.
GOUT	Middle-aged men	Attacks of acute pain	Big-toe joint swollen and tender	Bad habits

Diseases of Bones.—Bone may, like all the other structures of the body, become inflamed either as the result of injury or as the local manifestation of some general disorder. If the inflammation is acute, the bone becomes enlarged and softened, causing very severe pain and other disturbance.

The inflammation may terminate in an abscess of the bone, or by ulceration, the bone being gradually eaten away and removed in the discharges; or by destroying a portion of the bone, which comes away as a plate or spicule, sometimes requiring an operation for its removal. Lastly, it may terminate in chronic inflammation. Under the last circumstances, instead of being thinned and softened, the bone is thickened, enlarged and hardened.

The lining membrane or periosteum of the bone may be inflamed (periostitis). If this is acute and extensive, it is a very serious matter.

The doctor should be sent for at once, as immediate and active measures should be taken in order to arrest the spread of the inflammation.

Treatment for Inflammation of Bone.—For treatment the part must be rested, and a lead or spirit lotion kept applied, and if the nocturnal pain continues or is troublesome, a mixture should be taken containing five grains of iodide of potash two or three times a day, and the swelling painted with iodine or, if obstinate, with blistering fluid. A hard lump sometimes remains for a long time.

Diseases of the Joints.—The most common affection of the joints is inflammation of the lining membrane (synovitis). This may occur in many general diseases, as acute fevers, in rheumatism and in gout, in which there is generally more than one joint affected; but the most common causes are exposure to cold and damp and some form of injury to the joint—a strain or sprain, a blow or fall against some hard body, as the edge of a table or a step.

Treatment.—An inflamed joint should always receive complete rest. If a severe case, bed is the best place; if the knee or ankle is affected, a splint is useful, or if the elbow or wrist, a carefully applied sling. At the commencement, cold is the best application, as by its continued use early in the case the swelling may be prevented and the inflammation relieved.

Acute inflammation of the joint may end in becoming chronic, and the pain is much less. Stiffness of the joint may remain, and also the swelling.

In chronic synovitis rest must be continued, but the patient in some way must have exercise. Repeated blisters to the joint are very helpful. Frequent rubbing with stimulating liniments or douching with warm water or salt water. Give iodide of potash mixture, five grains to an ounce of infusion of gentian, twice a day.

If acute inflammation of a joint is not treated very carefully, it may go on to the formation of matter or abscess of the joint. This is a very serious condition, and if in a large joint, as the knee, endangers the patient's life. The best result that can be hoped for is that recovery may take place with a damaged and stiffened joint, and every care will have to be taken to place the limb in the position that will be most useful afterwards. A stiff leg should be straight, and a stiff arm slightly bent, but such a case should certainly be under the supervision of a surgeon.

Angular curvature of the spine is a serious disease, and is the condition which produces the terrible disfigurement called "humpback." It chiefly occurs during childhood, and in those children who have unhealthy constitutions, or who are suffering from debility after severe diseases. The most common predisposing condition is scrofula. The exciting cause is frequently an accident, a fall through the carelessness of a nurse, a strain or blow during a boisterous game, or in adult life the fall of a great weight on the back while in a stooping attitude.

The disease consists in an inflammation of the bones and gristle which form the spinal column, and is almost always situated in the front part of this structure.

The next symptom is the formation of a lump or swelling at the back of the spine; this is situated at the point diseased in the neck, back or loins. It is in the middle line. This "humpback" may vary from a swelling hardly noticeable to bad deformity.

Angular Curvature.—Angular curvature is often recovered from, leaving a slight deformity and stiffness, but others are cripples for life.

Discover the Disease as Early as Possible.—These troubles should not be neglected. The longer the delay, the more difficult to correct. A surgeon should be consulted at once. Many little patients have to spend months or even years on their backs, eating and drinking in this position. In the later stages they may be allowed to get about with a suitable apparatus applied to support the head and upper part of the body.

The child must be well and generously fed, must have as much fresh air as possible, and be given cod-liver oil.

Lateral Curvature of the Spine.—This is not so serious a disease as angular curvature. It may be the result of debility or rickets. But in a great majority of cases it occurs in young, delicate girls, from the age of ten to twenty, as the result of unsuitable occupations, amusements or work, by which a one-sided posture is encouraged. One side of the body is exercised much more than the other. Standing on one leg, long-continued sitting or stooping over a table resting on one arm, as in writing or reading; sitting cross-legged, long hours spent at sewing, ironing, reading, writing or drawing; carrying a child or other weights always on one arm, tight stays or dresses, are all sufficient to produce it in delicate girls. Any inequality in the length of the legs, from an artificial limb, hip disease or bending from rickets, acts in the same way.

Symptoms of Lateral Curvature of the Spine.—The patient complains of weakness, of being easily fatigued, and of an aching neuralgic pain *in* the back upon slight exertion. If the chest is examined, one shoulder blade (usually the right) appears to be "growing out." It is more prominent, and the same side of the chest projects. If the back is observed carefully while the patient stands upright with the heels together, it will be seen that the bones in the middle line forming the spinal column are not in a straight line, but form a double curve like an S, or rather, in most cases it is like this letter upside down, for the curve is towards the right above, and towards the left below. If the patient is made to lie down flat on her face, the spine will become quite straight in the early stages of the disease, but is fixed in the curved position if it has existed for some time. This shows the importance of early recognition of the condition and treatment.

Treatment of Lateral Curvature.—1. *General health.* The mild preparations of iron are very valuable. Cod-liver oil, good nourishing food, daily outdoor exercise, and avoidance of sedentary and lazy habits and occupations requiring a one-sided attitude.

2. *Strengthening the muscles.* Sponging of the back every morning with salt or vinegar and cold water, followed by friction with a towel and rubbing with the hands until the skin becomes red; kneading and massage of the muscles; gentle exercise alternating with periods of rest in the recumbent position, and carefully regulated gymnastic exercises, which should never be continued sufficiently long to produce fatigue.

3. *Relief of the spine* from the weight of the head is best carried out by lying down for a few hours daily. This is especially beneficial if the patient lies on her face. Confinement to bed is injurious, as it injures the general health, and it is absolutely necessary that rest and exercise should be taken in turns. As far as possible, the use of any apparatus should be avoided, as it interferes with the action of the muscles, and is liable to increase their weakness. However, in extreme cases some form of instrument is necessary, and should be applied only under the direction of a surgeon. Plaster of Paris or stiff felt jackets, or other more elaborate contrivances, may be advised.

Rheumatic Fever—Acute.—Anyone who gets well soaked and omits to change the wet clothes, who sleeps in a damp bed, or who becomes thoroughly chilled by sitting still after free perspiration, is likely to wake up the following morning with rheumatic fever. But this liability is much increased in those who are predisposed to rheumatism, as by having had a previous attack, by being out of health or by having a rheumatic family inheritance.

Treatment.—As the patient will be in great pain, and very likely unable to move a limb, he will be unable to get out of bed for any purpose whatever. The joints should be thickly covered with a layer of cotton-wool and a bandage, and the pain may be relieved by hot fomentations or by smearing over the skin under the wool some liniment of belladonna. The cotton-wool should be occasionally changed, as it gets soaked in perspiration and causes the patient discomfort; when this is done, the joints may be bathed with hot water containing some bicarbonate of soda.

The one drug which has a powerful effect in relieving rheumatic fever is salicylate of soda. It may be given every four hours in a mixture containing fifteen grains to a dose, or three of the five-grain tabloids at the same intervals. Bicarbonate of soda, fifteen grains, may with advantage be added to each dose; but, unfortunately, neither this nor any known drug seems to have any effect in reducing the liability to heart complications.

The following is one of the best combinations in acute rheumatism:

℞. Potassii iodidi....................4 drachms.
Sodii salicylatis.................4 drachms.
Spirits etheris nitrosi............2 ounces.
Syrupi aurantii...................3 ounces.

M. Sig. Two teaspoonfuls in water every two or three hours.

As the pains pass off and the fever diminishes, the food will have to be increased, butcher's meat being put off to the last. Tonics will probably be required to restore the patient's strength, which will be much reduced, and a change of air to a warmer locality will be useful to complete the cure. After an attack the patient will be very susceptible to cold, and he must be very careful, always dressing warmly, summer and winter; be cautious about dampness.

Persons who are predisposed to rheumatic fever feel any change of climate very keenly.

Muscular Rheumatism.—Muscular rheumatism may occur in any of the muscles of the body, and is often accompanied by cramps. The pains are hot, burning and aching, are increased by using the muscles, disappear with rest, and are much less severe at night when in bed.

Muscular rheumatism is brought on by two chief causes: (1) Exposure to cold, as a draught of cold air blowing on a muscular part while hot from exertion, and (2) a sprain or strain of a part. The latter is important to remember, as it explains many of those cases which begin as a strain and yet do not get well as quickly as an ordinary strain might be expected to. Rheumatism has a great tendency to attack any weakened spot, and a part that has been strained is thus laid open to its attack.

Treatment.—For chronic or muscular rheumatism the following may be given:

℞. Potassii iodidi....................4 drachms.
Fl. ext. manacæ.................1 ounce.
Syrup. sarsaparilla comp...q. s. 4 ounces.

M. Sig. Large teaspoonful in water four times a day.

Or, the following will be found useful in chronic or articular rheumatism:

℞. Lithii citratis....................1½ drachms.
Liq. ammonii acetatis ....2 ounces.
Syrupi limonis...................2 ounces.

M. Sig. Two teaspoonfuls in water every three to four hours.

For the swollen and painful joints the compound iodine ointment, with guaiacol, one drachm to the ounce, applied night and morning, is one of the best applications we are familiar with.

Hot saline baths are more beneficial in the treatment of rheumatism than any other known remedy. In all forms of this disease, especially chronic cases, great benefit is received from the mineral and mud baths at Mudlavia, Indiana, and many other places in the United States. Lithia, found in the waters of the different lithia springs, seems to have the power of dissolving the substances that cause rheumatism, especially in the joints.

Chronic Rheumatism—Treatment.—Great relief is obtained by hot fomentations, followed by rubbing with some stimulating liniment, the turpentine and acetic acid liniment being a very suitable preparation. For general treatment, the patient must dress warmly, live when possible in a dry climate, must avoid exhausting exercise, and have very nutritious diet, of which fatty articles should form a large percentage. Cod-liver oil is the best way of supplying fat, while iron improves the general constitutional condition. Iodide of potash is usually prescribed in this complaint, especially if the pains are worse at night; five grains either in tabloids or a mixture should be taken three times a day.

Rheumatic Gout.—A disease which goes by the name of rheumatic gout, but which really is perfectly distinct from both rheumatism and gout. The joints which are nearly always first affected are those of the hands and fingers; the other joints, however, get diseased later, the feet and toes, the knees, wrists, jaw and joints of the spine being gradually involved. An important feature of the disease is the great deformity of the affected joints; they become twisted, knobbed, stiff, immovable and generally distorted, and crack and creak when moved.

The disease must be looked upon as practically incurable, unless the treatment is started very early, when there is some hope of eradicating it from the system.

Treatment.—For local measures, painting the affected joints with iodide liniment, friction, after hot-water sponging, with the turpentine and acetic acid liniment or camphorated oil; covering the parts with flannel or cotton-wool.

Gout.—Gout is due to the presence of an excess of uric acid in the system, and may therefore be produced by all those causes which encourage the formation of this acid. It is the most striking example of an inherited disease. This inheritance may be a sufficient cause to produce it by itself, or it may be aided by some of the other causes to be mentioned. The individual who inherits gout has what we have already spoken of as the uric acid diathesis. The inheritance is so strong that it occasionally is handed on to several succeeding generations. Sometimes, however, gout may appear in persons quite free from hereditary taint; and in these cases the most common cause is some error relating to food, drink or exercise. Excess in eating is a serious matter in one goutily inclined, especially if the excess is in articles of food rich in nitrogen. These, of course, include all animal foods, but some are much more injurious than others. Beef is considered particularly bad, but all meats, especially if richly cooked and highly flavored, are injurious. Excess in drink is a very frequent exciting cause; all alcoholic drinks are objectionable. Sedentary habits and an indolent, lazy mode of living strongly predispose to the disease.

If the food lies heavy in the stomach, and the bowels are constipated, the following combination will be serviceable:

℞. Magnesii sulph	2 ounces.
Magnesii carbonatis	2 drachms.
Vini colchici seminis	6 drachms.
Aquæ menth. pip	ad. 12 ounces.

M. Sig. A teaspoonful every four hours.

Or, the following may be given for gout:

℞. Vini colchici seminis	4 drachms.
Sodii salicylatis	3 drachms.
Sodii iodidi	1 drachm.
Spiritis chloroformi	3 drachms.
Inf. buchu	q. s. ad. 8 ounces.

M. Sig. A teaspoonful every three to four hours.

Also, the following:

(This is one dose.)

Carbonate of Lithia, 3 grains.
Wine of Colchicum, 5 drops.
Iodide of Potash, 3 grains.
Tincture of Lemon, 20 drops.
Infusion of Calumba to the ounce.

To be taken three times a day.

Lime-juice may be taken at meals, and proves a not unpleasant beverage.

To remove the stiffness of the joints and the chalk-stones, the following measures can be tried: Counter-irritation with iodine liniment, rubbing with the turpentine and acetic acid liniment, shampooing, friction and passive movements of the joints. A lotion of four grains of carbonate of lithia kept constantly applied under oiled silk may prove useful in dissolving the stones, for which purpose wrap the affected joint in flannel wrung out of warm water, enclose it in some waterproof material, and leave it on all night.

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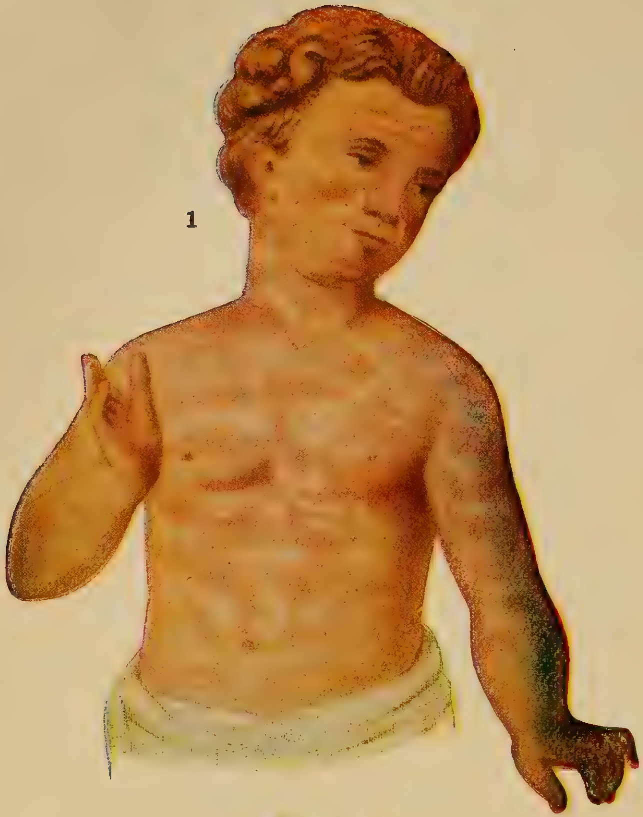

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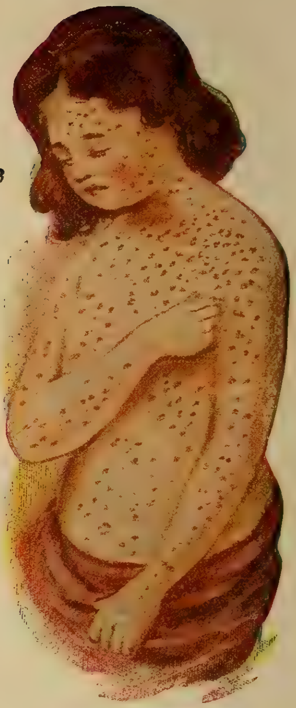

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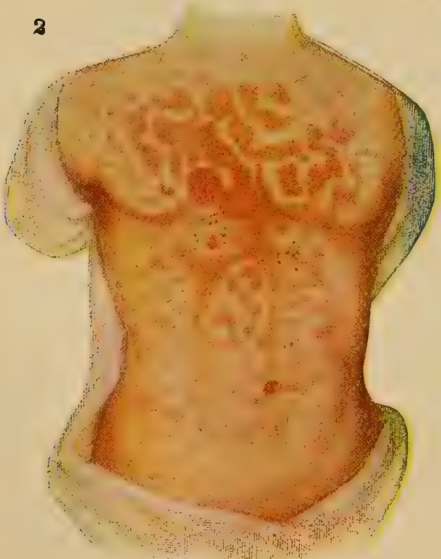

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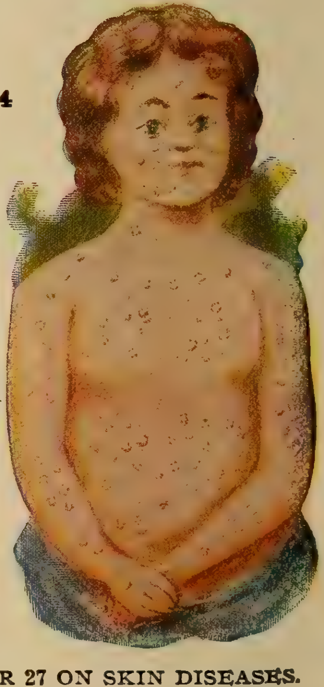

FOR TREATMENT OF THE ABOVE SEE CHAPTER 27 ON SKIN DISEASES.

Fig. 1.
Scarlet Fever.

Fig. 2.
Measles.

Fig. 3.
Smallpox.

Fig. 4.
Chickenpox.

CHAPTER XXVIII

SKIN DISEASES AND FEVERS

The Offices of the Skin.—The skin has many important duties to perform. (1) It is the external covering for the deeper and more delicate structures; (2) it is the organ of sensation and of touch; (3) it is an important means of removing impurities from the body, together with a large quantity of water; (4) it is sometimes engaged in absorbing substances from its surface; (5) it secretes a delicate oily substance; and (6) it regulates the temperature of the body.

Causes of Skin Diseases.—Many skin diseases are due to general constitutional ailments, which affect the skin at the same time they involve the body in other parts. The rashes which appear in infectious fevers, as scarlet fever, are good examples. Others are caused by the disorders of the nervous system, as shingles or itching; or by errors of diet, as nettle-rash. Poisons taken into the body may produce eruptions, as alcohol; iodide and bromide of potash also cause eruptions.

Many skin diseases are produced by parasites, both animal and vegetable. Of these, the itch-insect, lice, bugs and fleas are not uncommon. Ringworm is a vegetable organism.

Classification of Skin Diseases.—1. The first class is characterized by redness due simply to an increased quantity of blood in the vessels of that portion of the skin.

2. If the redness is accompanied by some swelling it forms a small, red, raised spot, which is called a papule or pimple.

3. If the swelling in a spot goes on to the formation of a little blister it is called a vesicle. The vesicular eruptions are eczema, shingles and the sweat-rash.

4. If the vesicles become filled with matter they might be called pustules. Pustules break or dry up and form thick, dry, horn-like scabs.

5. Scales are produced by the separation of the epidermis with the slightest friction. These are called psoriasis and pityriasis.

6. If pimples become enlarged and prominent and form little solid prominences of the skin, they are called tubercles.

7. Diseases due to parasites. Those caused by vegetable growths are ringworms, sycosis and chloasma; the animal parasites are lice and the itch-insect.

SYNOPSIS OF DISEASES, WITH SYMPTOMS, AND THE LIKE.

Disease.	Mode of onset.	Latent period.	Day on which rash appears.	First situation of rash.	Appearance of rash.	Eruption fades.	Chief symptoms.	Length of infection. Remarks.
CHICKEN-POX......	Slight fever	13 to 16 days	1st day	All over body.	Red pimples and small blisters in crops	3rd or 4th day	Rash	Until scabs are all gone.
MEASLES...	Feverish cold	10 to 14 days	4th day	Forehead	Red pimples in crescents.	7th day	Cold in the head	Until peeling and cough have ceased.
GERMAN MEASLES.	Slight symptoms or none	2 to 3 weeks	1st day	Face	Rose-red patches, not in crescents or general redness	3rd-4th day	Rash	2 to 3 weeks from appearance of rash.
SCARLET FEVER....	Sudden, with vomiting, shivering, and fever	2 to 5 days	2nd day	Neck	General redness with red points.	5th day	Sore throat and peeling	6 weeks, until all peeling and discharges are gone.
SMALLPOX..	2 or 3 days' fever, severe premonitory symptoms	12 days	4th day	Face	Red spots which form matter	Scabs form 9th-10th; fall 14th day	Backache.	Until scabs have dropped off.
TYPHOID FEVER....	Gradual	6 to 24 days	7th-11th day	Abdomen	Rosy red spots in crops	3rd-4th day	Fever, diarrhea	Stools contagious.
TYPHUS FEVER....	Gradual	7 days	4th-7th day	Abdomen	Dusky brown spots, mottling	14th day	Brain symptoms and exhaustion	10 days after entire absence of fever.

Disease.	Onset.	First symptoms.	Incubation.	Chief symptoms.	Length of illness.	Quarantine.	Means of infection.
WHOOPING-COUGH. ..	Gradual	Feverish cold	7 to 14 days	"Whoop"	Indefinite	6 weeks, until "whoop" has gone	Breath.
MUMPS.....	Gradual	Stiffness of jaw	14 to 21 days	Swelling at side of face	1 to 2 weeks	3 to 4 weeks, until swelling has gone	Breath.
DIPHTHERIA........	Gradual	Fever and sore throat	1 to 8 days	Membrane on affected part	1 to 2 weeks	3 to 4 weeks, until membrane has gone	Breath and discharges.
INFLUENZA.	Sudden	Shivering, fever and general aching	A few hours	Vary with attack	3 to 10 days or longer	Until fever has abated	In atmosphere.
CHOLERA...	Suddenly or with premonitory diarrhea	Diarrhea	A few hours to 3 days	Rice-water stools, cramps, exhaustion	Varies	7 days after cessation of diarrhea	Discharges from bowels and stomach.

Rose-Rash.—Rose-rash (roseola) is an eruption of slightly raised, small, rose-colored spots, accompanied or preceded by slight fever and sore throat, and is likely to be mistaken for measles.

Nettle-Rash.—Nettle-rash (urticaria) is a very common disease. It occurs at all ages, and is especially liable to affect those persons who are prone to rheumatism.

Causes.—It is most common in women and infants and in those persons who are of nervous, gouty or rheumatic constitutions. It may be brought on by any local irritation, as the stings of nettles, wasps, bugs, mosquitoes, and in some persons even by flea-bites. But more commonly the causes act from within and depend upon certain articles of food which irritate the digestive organs and act like poisons. The most usual are shell-fish—mussels, crabs, or lobsters—but pork, almonds, strawberries, parsley, mushrooms and oatmeal may all act in a similar way, even when they are perfectly fresh and good.

Treatment of Nettle-Rash.—The cause must be removed. The discomfort caused by the spots may be relieved by applying lead lotion to them, or starch powder or by taking a warm bath. Lemon-juice or vinegar and water are also useful as lotions.

Erysipelas.—Erysipelas, or St. Anthony's fire, is an inflammation of the skin and is characterized by redness. The skin affected becomes a bright red color and is slightly swollen and the inflammation has a peculiar tendency to spread very widely, involving a large surface of the skin. The disease is liable to attack open wounds, spreading gradually from them as a center.

The Treatment of Erysipelas.—The patient should be put to bed in a well-ventilated room and the treatment be commenced by a good purge. Most cases will require good food and tonics.

Quinine is also useful, especially combined with the iron, as in the following prescription:

(This is one dose.)

Tincture of the Perchloride of Iron, 10 drops.
Sulphate of Quinine, 1 grain.
Spirit of Chloroform, 20 drops.
Infusion of Quassia to the ounce.

To be given every four to six hours.

For local treatment, astringent applications are useful. If the inflammation be very limited, it may be covered over with a coating of collodion; while if more extensive, a lotion of a drachm of sulphate of iron to a pint of water may be employed. Powders dusted over the affected skin are useful, such as starch, equal parts of starch and oxide of zinc, or ordinary violet powder.

If, however, matter is forming, or the skin is very swollen and tight, warm fomentations must replace the foregoing—poppy fomentation or the boracic poultice. Lastly, when the matter has collected, incisions to let it out must be made, but under these circumstances the case must necessarily be in the hands of a surgeon.

Eczema.—Eczema is one of the most common of skin diseases. It is characterized by more or less redness of the part of the skin affected, with small, closely packed vesicles upon it, which are usually not larger than a pin's head. These run together, burst and pour out a watery fluid that dries into thin, yellow crusts. The discharge has the property, when dried, of stiffening linen. The parts affected burn, tingle and itch, and these symptoms are sometimes very severe, especially at night; the itching, in particular, may be so troublesome that it is impossible to resist the temptation to scratch the parts. This, though it may temporarily relieve the itching, much increases the severity of the disease.

Of general causes, anxiety and worry, indigestion, asthma, rheumatism and gout are the most important, persons suffering from any of these being prone to eczema. The disease is not usually contagious.

Rheumatism, gout and other constitutional diseases must receive their appropriate treatment, when they are the causes of eczema.

Before any local remedies can be applied with benefit the scabs must be removed. This can best be done by covering them with lint soaked in oil or by warm bread poultices.

Although cleanliness is of the first importance in the treatment of eczema, constant washing and rubbing with towels are most injurious. Hard water should on no account be used; rain water or water that has been boiled and to which a small quantity of bran has been added should be employed, and great care should be taken to prevent the discharge from irritating the surrounding skin. Soap is also injurious to the eczema eruption, and should not be used. Another important point in the treatment is that the lotion or ointment employed should be kept continuously on the affected part, which should always be carefully covered from the air; it is not sufficient to apply remedies once or twice during the twenty-four hours.

For the eczema which occurs in children the best application is the benzoated zinc ointment, which should be well smeared over the part, the scabs having been removed, and then covered up with a piece of thin linen; the boracic acid ointment is also suitable.

For acute eczema affecting a large surface, warm applications give most relief to the pain. A lotion containing fifteen grains of boracic acid to the ounce, made warm by adding a small quantity of boiling water, applied on lint and kept moist and warm by being covered with oiled silk, can be strongly advised.

Ichthyol is a sedative drug, and may be painted over the inflamed parts when mixed with three times its bulk of water.

When eczema has become chronic the treatment must be more stimulating; an ointment composed of equal parts of sulphur and zinc ointments is suitable.

As the itching is often the chief cause of complaint, it will be useful to know some remedies for it. The powder of oxide of zinc, ten grains in an ounce of lime-water, will be found to be very soothing; or a lotion composed of carbolic acid one drachm, glycerine two drachms, to eight ounces of water, may be applied on a sponge or piece of rag.

Shingles.—Shingles, or, as it is called, "Herpes Zoster," is a peculiar form of skin disease, caused by some affection of the nerves.

The rash is nearly always confined to one side; it may extend from the middle line at the back to the middle line in front, but does not pass beyond either. It occurs most frequently on the side of the chest, less so on the side of the abdomen or face; patches of redness appear at the seat of the pain, and after a time become covered with a number of little blisters or vesicles.

Cover up the eruption from the air, as this at once relieves the pain. This may be done with oil, flour or a layer of cotton-wool; but the best plan is to at once procure some flexible collodion and a brush and paint over all the spots.

The following effervescing mixture may be given while the fever and acute pains last, and tonics, such as quinine or steel wine, will assist convalescence:

Bicarbonate of Soda, 15 grains.
Tincture of Lemon, 15 drops.
Syrup, ½ drachm.
Water to an ounce.

To be taken three or four times a day with a tablespoonful of lemon-juice.

Impetigo.—Impetigo is contagious. It spreads from one part of the body to another, as the result of scratching. It also spreads to other persons, and it is very common for several children in one family to suffer from it at the same time, the probable mode of transmission from one to the other being by wearing each other's clothes or hats, or using the same towels. Besides resulting from contagion, it may be caused by dirt or irritating substances.

Treatment.—The scabs must be removed by carbolized oil or bread-and-water poultices, and frequently, to do this thoroughly, the hair has to be cut short. The parts should be washed night and morning with warm boracic acid lotion, fifteen grains to the ounce of water, and an ointment applied. Zinc ointment, sulphur ointment and dilute nitrate of mercury ointment are all suitable. Scratching the spots must be avoided.

Ringworm.—Ringworm is a very common affection of the skin, caused by a minute vegetable growth or fungus.

This disease is very contagious, spreading from one child to another in school or family. It is carried by brushes, clothes, hats or towels, and may be caught from animals, such as dogs or cats, which are affected by it. The disease of the head is almost entirely confined to children, but that affecting the body is seen also in adults.

Treatment for Ringworm.—1. *For ringworm of the body,* the best application is tincture of iodine. This should be painted over the spots with a brush every morning until it produces a little soreness, when it may be discontinued for a day or two. If this is not sufficiently strong to destroy the growth, a small quantity of blistering fluid may be applied to it. Sulphur ointment is also a useful application.

2. *For ringworm of the head* more severe measures are required. The hair round each patch should be cut short, so that the affected spot may be got at more easily; if crusts have formed, they must be softened with bread-and-water poultices and removed. The broken-off hairs should be pulled out with a small pair of forceps, and a ring of healthy hairs treated in the same way. The disease may now, in many cases, be cured by painting with the liniment of iodine or with blistering fluid. If this is unsuccessful, the spots should have a lotion composed of salicylic acid, ten grains to an ounce of chloroform or ether, well rubbed in with a piece of linen every morning.

Animal Parasites: the Itch-Insect, Lice.—The itch or scabies is produced by a little insect called the *sarcoptes hominis* or *acarus scabiei.*

Treatment.—The ointment used to destroy these insects is formed of four drachms of sulphur ointment to one ounce of lard or vaseline, and it is employed in the following way: The patient gets into a hot bath and soaks the whole body in it for some time, using plenty of soft soap; having dried the skin, the ointment is rubbed very thoroughly into all the parts affected by the disease, using the ointment freely, and leaving it on until the following morning, when it may be removed by another bath. Clean clothes should be put on, and all those previously worn thoroughly disinfected by boiling or baking. Any sores produced by scratching will heal rapidly if covered by boracic acid ointment.

Many other animal parasites besides the itch-insect live and flourish on the human skin, especially in those persons who are not too fond of soap and water.

The most troublesome lice are those that affect the head. The first step in the treatment is to kill the insects, the second to remove the nits before they are hatched, and the third to heal the irritation and sores of the scalp. With boys, the simplest thing to do is to cut the hair short, and then use a fine-tooth comb.

A preparation of mercury should be employed, called the white precipitate ointment. This should be well smeared on to the skin of the head at night, kept on for some hours, and then be followed by thorough washing with soap and water. The sores may be healed by thorough cleanliness and the application of the ointment of boracic acid.

The other most common form of *pediculus* is called the body louse, but really lives more in the clothing than on the skin. It can soon be got rid of by a good bath with plenty of soap, and thorough disinfection of the clothes by boiling or baking.

Hair Restorers—Baldness.—The following is a useful prescription:

Tincture of Spanish Fly, 2 ounces.
Bay Rum, 1 ounce.
Rose Water, 4 ounces.
Boiling Water, ½ pint.

This should be well rubbed into the skin of the scalp (not the hair) night and morning with a piece of flannel or small sponge. Small sponges fixed upon a handle are sold for this purpose. The hair should not be brushed too vigorously, as this tends to pull out the hairs already loosened, which might otherwise have been saved.

Chicken-Pox.—Chicken-pox (*varicella*) is probably the mildest of all the infectious diseases. It is almost peculiar to childhood, for although it may affect adults, it very seldom does so.

The treatment of chicken-pox consists in keeping the little patient in bed, or, during mild attacks, in a warm room, giving only a light diet and applying a simple ointment, such as the boracic acid ointment, to the spots, and guarding them from friction and scratching. The debility left by the disease requires good food.

Measles.—Measles (*morbilli*) is one of the most common of the infectious diseases, and very few persons reach adult life without having suffered from it. It is chiefly met with during childhood, simply because it is so very contagious that it is almost impossible to keep children from being infected. Adults are just as liable to it if they have not become protected by having previously had an attack.

Measles is not uncommonly taken a second time. The disease gives protection against another attack for a while, but the effect passes off more rapidly than in many of the other infectious fevers.

The rash usually reaches its height on about the fifth or sixth day, and disappears first on the face and afterwards on the body, and is quite gone by the seventh or eighth day. In many cases a slight scurfiness follows the rash, especially on the face.

All the other symptoms, including the fever, pass off with the eruption.

There may be difficulty in distinguishing measles from several other diseases. The most difficult is German measles, but indigestion eruptions and the rashes of scarlet fever and smallpox are sometimes mistaken for that of measles.

In German measles the rash comes out earlier (on the first or second day), and does not last so long. The symptoms of cold in the head are slighter, the fever is absent or very insignificant, the eruption is seldom in the form of crescents, and is often accompanied with much itching. However, none of these are sufficiently distinctive in some cases, and it is then always wisest to treat the case as one of true measles.

The eruptions caused by stomach trouble follow some error of diet, appear all over the body at once, last an indefinite time, run an irregular course, and are not accompanied by the symptoms of catarrh or with fever.

The smallpox spots are hard, and like shot in the skin, and there are special symptoms of that disease present, such as backache. Scarlet fever has more severe throat symptoms, the eruption is brighter in color, consists of fine dots, and commences on the neck and chest.

The treatment for a simple case is an easy matter. The child should be put to bed in an airy, warm, well-ventilated room. The room should be darkened, if the eyes are much affected, and a steam-kettle employed if the cough gives much trouble. Great cleanliness should be observed, and all discharges, whether from eyes, nose or mouth, washed away with warm water.

The diet must consist chiefly of milk, with barley or soda-water, gruel and light milk puddings. Thirst may be relieved with lemonade, barley water, black currant tea, etc. The skin should be sponged over daily with warm water containing vinegar or sanitas to relieve the itching and bring out the rash.

The best medicine to reduce the fever and bring out the eruption is the tincture of aconite. One drop of the tincture, or a tabloid containing this dose, may be given every two hours for half a dozen doses, and then at longer intervals, to a child one year old, and proportionately larger doses for older children. When complications arise, it is of even greater importance to get the skin to act freely; and it is sometimes necessary to give the child a hot bath, and then rapidly dry him and wrap him up in a blanket.

Uncomplicated measles require no treatment except to palliate symptoms. The child should be kept in a room that has a uniform temperature of about seventy degrees. Currents of air and sudden reduction of temperature are dangerous. The diet should be milk and mostly liquid. The cough ordinarily requires treatment. Flaxseed tea, infusion of slippery-elm bark or solution of gum arabic are useful; to make them more palatable lemon-juice may be added.

The following mixtures, given occasionally, relieves the severity and diminishes the frequency of the cough:

℞.	Tinct. opii. camphorat	½ ounce.
	Syr. scillæ	½ ounce.
	Syr. ipecac	½ ounce.
	Spts. ether, nitr	4 drachms.

Misce. Dose, one teaspoonful to a child of five years, repeated every two to five hours, according to circumstances.

The chest should be covered with oil silk or cotton. If the eruption is tardy in its appearance or indistinct, it is well to produce moderate counter-irritation, with camphorated oil, to which one-fourth part of turpentine is added.

Scarlet Fever.—Scarlet fever is one of the most serious diseases of childhood. This fever, although always present among us to some extent, occurs also in epidemics, and for some unknown reason these are most common during the autumn months.

Persons of all ages are liable to take scarlet fever, but children between the fourth and seventh years are most susceptible to the disease.

Symptoms.—The onset of the disease is usually sudden, and the first symptoms are vomiting, shivering and sore throat. Whenever these three symptoms come on together suddenly, our suspicions should be aroused, especially if, on taking the temperature, we find it high. Loss of appetite, headache and occasional diarrhea are common early symptoms.

By carefully isolating the patient and waiting for twenty-four hours, the characteristic eruption will have appeared. This first occurs about the chest and neck, then rapidly on the hands, arms, thighs and lower part of the abdomen, and becomes general in twenty-four hours, reaching its height in two or three days. The appearance of the rash should be known by all, as its early recognition is of great importance and not a matter of any particular difficulty in the majority of cases. When first it appears it is faint, but on closer examination can be seen to be made up of a number of small red spots, each situated at the opening for a hair. These are rapidly surrounded by rings of redness, which spread and unite with one another, so that from a little distance the skin looks uniformly red. The appearance it gives is somewhat similar to the so-called "goose's skin." The vivid scarlet color disappears upon pressure with the finger, but soon returns. It reaches its height in two or three days, and by the end of a week or ten days has disappeared. As it fades away it is followed by "peeling"—a separation of the surface layers of cells, as a result of the acute inflammation of the skin. This, first seen on the chest and neck, spreads over the body and limbs, and remains last on the palms of the hands and soles of the feet, in which situations it may continue for a long time; it is here also that the skin comes off in largest and thickest pieces, on account of the greater thickness of the skin. If any doubt exists, these are the spots which should be carefully examined for "peeling." It may be found to be still present even weeks after the disease has passed off. This is a point of great importance when we remember that infection continues so long as there is any sign of peeling.

Sore Throat is Always Present. The tonsils, palate and the parts visible on examining the throat are red, swollen and covered with thick secretion, which often collects in patches on the tonsils; there is a good deal of pain in swallowing, and tenderness in the neck, from enlarged glands. The tongue, at first covered with thick, whity-brown fur, becomes by the fourth or fifth day bright red and rough-looking, from which appearance it has received the name of "strawberry tongue." Thirst is often a troublesome symptom, and the urine is scanty, high-colored and contains albumen.

The severity and length of attack of scarlet fever vary enormously.

Rheumatic affections are not uncommon, and may be accompanied by heart disease, but the most common complication is inflammation of the kidneys.

Scarlatinal Nephritis comes on during convalescence, while "peeling" is going on, some time during the second or third weeks of the illness, and is just as likely, if not more so, to follow slight cases as severe ones. It may occur in some patients in spite of the utmost care, but is often due to slight chill, or exposure to cold, which under other circumstances would have been quite unimportant; about six out of every hundred cases are followed by this trouble.

The early symptoms of kidney trouble are only recognized by an examination of the urine, and it is customary, on this account, for the doctor to examine the water every two or three days.

Treatment for Scarlet Fever.—As soon as scarlet fever is even suspected the patient must be shut up in a room isolated from the house as thoroughly as possible, preferably on the top floor. No one but the nurse must ever be allowed to enter; all woolen goods, and as much furniture as possible, must be removed, and the carbolic sheet and other antiseptic precautions adopted. All other children who have been in the patient's company should be sent to another house where there are no children; but not too far from home, in case they get the disease.

The patient should be put to bed and kept there for three weeks, or until the skin has peeled. In mild cases this may seem a long time, but it is far better to be too careful than not careful enough, for a very slight exposure may bring on troublesome complications.

The room should be well warmed and ventilated, and every precaution taken to thoroughly disinfect all articles before they are taken from the room, and to burn all rags upon which any of the discharges have been wiped.

Food must be light and simple. A little beef-tea may be allowed.

Medicines are not of much use in scarlet fever. No drug is known that will cure or even check the course of the disease. The effort should be to keep down the bad symptoms. If a high fever shows itself, a mixture may be given: Aconite, one drop, or a tabloid, may be given to a child of two or three years, every two hours, for from four to six doses, and then at longer periods until the temperature falls. It is a great comfort to the patient to have a daily sponge with warm water containing a little carbolic acid. As a precaution against the diffusion of the particles from the skin, after the sponging the skin should be well greased with ointment made according to the following formula: Lanoline, four drachms; solution of carbolic acid in water (1 to 40), four drachms.

This is antiseptic and cooling. If the smell of carbolic acid is objectionable, it may be replaced by a drachm of eucalyptus.

The patient should be dressed in a complete change of clean clothes, and may then be allowed to mingle in the company of other people without danger of spreading the infection.

Treatment for Other Symptoms in Scarlet Fever.—1. *For the sore throat* nothing is more comforting than sucking pieces of ice or sipping iced milk. A great deal of trouble is always experienced with young children in applying anything to the throat, but in older children and adults drugs may be applied with the throat spray or a brush, or by inhalations. Boracic acid, fifteen grains; sanitas, twelve or fifteen drops; or permanganate of potash, two or three of the two-grain tabloids, mixed with an ounce of water, are used for these purposes, and also for syringing the nose to remove the thick discharge. The tabloids of chlorate of potash and borax, or inhalations of steam, also relieve the pain of the throat. Externally a warm compress or hot poultices are useful.

2. *For earache* place a few drops of warm camphorated oil in the ear, to which a drop or two of laudanum may be added, and apply hot fomentations or poultices.

3. *For rheumatism* use stimulating liniments and warmth, and wrap up the painful parts in cotton-wool. To guard against

4. *Inflammation of the kidneys,* the first point is to guard against cold. The skin should be kept acting well by warm sponging, the bowels regular by mild aperients, and when he is up the patient should be warmly clad with flannel next the skin. If the disease comes on in spite of precautions, the proper treatment would be that of acute nephritis.

Quarantine.—It is necessary to maintain strict precautions and isolation for six weeks even in mild cases; and even after this time has elapsed it is dangerous to allow the patient freedom if there is any "peeling" visible on any part of the body.

or if there is sore throat or any discharge from ears, nose or wound left by an abscess of the glands. Undoubtedly, we should not err if we were to extend the period of quarantine to two months, for the disease is very serious, and the infective particles have great vitality. No person who has been exposed to the infection can be considered safe until fourteen days have elapsed from the time of the exposure.

Smallpox.—Smallpox (variola) can nowadays be looked upon with little dread. The disease is robbed of all the horrors that used to be attached to it, and this has been brought about by the wonderful discovery of vaccination.

Treatment for Smallpox.—Isolation and antiseptic precautions are essential. The patient should be put to bed in a room kept fresh and warm; he should have light food and be kept scrupulously clean. He should have some cooling mixture, plenty of simple drinks, some mild aperient if necessary, use warm drinks and black currant jelly for the throat, and the spots should be covered with a simple ointment, as lanoline, or with glycerine, one part to two of rose-water, to prevent pitting.

No person who has not been vaccinated should be allowed to enter the sick-room, or the disease is almost certain to be taken, and there are strong reasons in favor of all adults being revaccinated before exposing themselves to infection; probably no one who has been successfully revaccinated would ever be attacked by smallpox.

About Vaccination.—Whenever smallpox breaks out in a neighborhood, it is a wise precaution for all those who will be exposed to the infection, and especially those who are in attendance upon the sick, to be revaccinated unless they have within recent years successfully been operated upon. A question of great importance is what date after exposure to the smallpox poison is the latest at which vaccination will prevent infection. As the spots of a first vaccination reach their full development on the ninth or tenth day, and the incubation period of smallpox is usually twelve days, vaccination will have a beneficial effect if performed on the second or third day after exposure to the poison, but in those who have been previously vaccinated, the spots attain their maturity earlier—namely, on the seventh or eighth day—so that a secondary vaccination would still be useful if performed on the fourth or fifth day after exposure. If, however, the operation is put off to a later date, no good will be obtained from it. No one who has had smallpox is free from infection until every scab has fallen off; and those who have been exposed should be kept in quarantine for about eighteen days, when they can be declared fit to associate with others, if no symptoms appear.

Exterior Treatment of Smallpox.—To relieve the edema of the face and eyelids, hot water compresses, changed at frequent intervals, should be applied. If the smarting pain over

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the surface of the body be present, apply cold vaseline. For the throat symptoms, gargles are employed, such as flaxseed tea, solutions of potassium chlorate, borax and alum. Small pieces of cracked ice held in contact with the mucous membrane are very grateful. For the conjunctivitis, in most cases a weak solution of alum is good. If there is much prostration and restlessness, stimulants should be administered. When the pain from distention of the vesicles on the hands and feet is intense, much relief will be obtained by soaking the parts in hot water for ten or fifteen minutes, followed by puncture of the vesicles. To relieve the burning and itching of the skin when the pustule is ruptured, the carbolized baths, followed by the free use of vaseline, will give much relief. In cases where the scabs on the face and nose are unusually abundant, and tend to prolong and increase the ulceration, they should be softened with hot water and vaseline and removed; after which direct application to the bottom of the ulcer should be made with the following:

℞.	Iodoformi	35 grains.
	Bals. tolutn	20 drachms.

The doctor better attend to the medical prescriptions.

Whooping Cough.—Whooping cough (*pertussis*) is one of the most infectious, and for that reason one of the commonest, of the specific fevers. It derives its name from the peculiar noisy crouping cough which forms its most prominent feature. It occurs in epidemics which spread rapidly and widely, but is also present at all times in crowded districts in a certain number of isolated cases.

The following mixture will be found useful; it wiil cause perspiration and expectoration:

(One dose for child.)
Solution of Acetate of Ammonia, 10 drops.
Ipecacuanha Wine, 2 drops.
Nitre, 2 grains.
Tincture of Lemon, 5 drops.
Syrup of Lemon, 10 drops.
Water to the drachm.

To be given every four hours for a child one year old. More frequently or in larger doses to older children.

Mumps.—Mumps (*parotitis*) is an inflammation of the salivary glands. The disease is infectious, and will rapidly spread among children. It affects most frequently those between six and twelve years of age; but all persons, at any rate up to the age of thirty, are liable to take it.

The chief, if not only, means of infection is by inhaling the breath of the infected person.

Treatment.—Although in most cases bed is not necessary, the patient must be kept in a warm room and isolated from others. Chills are dangerous, and may bring about metastasis. The food must be light and such as will require no mastication —such as milk, bread and milk, beef-tea, eggs, etc.

The swollen face only requires to be kept carefully covered up with a layer of cotton-wool and a bandage, or with flannel.

If the pain is severe, hot fomentations should be applied, a little belladonna rubbed in gently.

Diphtheria.—Diphtheria has always been regarded as a truly terrible disease, and although in the present day we are beginning to look upon it with less dread on account of some wonderful discoveries which have been made of late years, we must still consider it an affection accompanied with great danger. It is highly infectious; it is transmitted from one patient to another, can be carried from those affected to others, on the hands or clothes of any who enter the sick-room, and it can be transmitted from animals to man.

Symptoms of Diphtheria.—The symptoms of diphtheria come on gradually with fever and sore throat; there may be some shivering and chilliness, a feeling of being ill and heavy, and a rise of temperature. If the throat be looked at early, the tonsils and neighboring parts are seen to be red and swollen, and very soon these become covered with patches of whitish-gray or yellowish material, which forms the diphtheritic membrane; these gradually spread and unite with one another, and may after a time form a continuous layer over all the parts at the back of the throat. The membrane is firmly attached, and can not be removed with a brush; if, however, it is torn off it leaves a raw, bleeding surface, which is rapidly covered up again by fresh growth

If it spreads into the larynx and windpipe, it interferes with the breathing by gradually closing up the narrow chink between the vocal cords; the symptoms are very severe, and the illness is one of the most pitiable to witness. It is the commonest form of diphtheria in children, and, because the passage for the air is naturally much smaller than in adults, the difficulty of breathing soon becomes a very prominent symptom. The difficulty in breathing gets worse, and, especially at night, the child is liable to violent attacks due to spasm, in which he wakes up struggling for breath and clutches at his throat as if to remove the obstacle.

A very serious symptom of diphtheria is the great tendency there is for extreme weakness and exhaustion to set in, and for the child to die, in spite of every attention, and without any other severe symptom being present. This weakness is specially likely to affect the heart, and is one of the chief causes of death.

It is not uncommon for children to cough up large pieces of membrane, mixed with discharge, which resemble tough, wet washleather. This is usually followed by relief to the breathing, but more may be formed in the course of a few hours.

The Complications of Diphtheria, although not so numerous as those which occur in scarlet fever, are both troublesome and dangerous. Bronchitis and inflammation of the lungs may come on as a consequence of the spread of the disease downwards.

Albumen in the Urine occurs, to some extent, in almost all cases of this affection. It comes on some time between the third and eighth days, and it is always important to examine the water every day or two, by boiling it, to see if any albumen is present. This is usually done by the doctor, but is a simple process, and can be carried out by the person in attendance. Speaking roughly, the more albumen there is present the worse is the case.

Paralysis is the most frequent complication or, more correctly, consequence of diphtheria. The most common time for its appearance is two or three weeks after the patient has apparently quite recovered, and it is just as likely to follow the slight as the most severe attacks. The patient may find that he has a good deal of difficulty in swallowing, and, if he does not do so with great care, that fluids or pieces of food "go the wrong way," and pass into the windpipe, setting up violent attacks of cough; or they may pass upwards into the nose and escape from the nostrils; at the same time he speaks "through the nose" and in a thick, indistinct way. These symptoms are caused by paralysis of the palate and neighboring parts.

Various muscles of the body may be paralyzed. In most cases paralysis disappears in a few weeks. Watchfulness, but no anxiety, is necessary on the part of parents.

Treatment for Diphtheria.—No attempt should be made to treat diphtheria without medical advice. As soon as you recognize the disease, send for the doctor. First of all, without doubt or hesitancy, and without controversy with the doctor or anyone else, if possible, use the

Antitoxin Treatment.—Diphtheria has been robbed of many of its horrors by using antitoxin. It consists in the injection under the skin of a fluid called antitoxin, which is the fluid part or serum of the blood of an animal (the horse) affected by diphtheria. Its action is to destroy the poisons produced in the blood of the affected person. Two or three injections, perhaps, may be necessary. Immediate relief usually follows its use. No evil effects have yet been seen from its use.

A Disinfectant for Diphtheria.—Carbolic acid, one part in one hundred of water, may be used as a spray. Chlorine prepared in the following way is a valuable disinfecting agent, and may be used as a gargle or a spray:

Chlorate of Potash, 10 grains.
Pure Hydrochloric Acid, 20 drops.

Mix, and add water to one-half pint, and make a free chlorine gargle.

Quarantine.—The patient must be kept in durance for at least three weeks in mild cases, and longer in severe ones, and should not be allowed to associate with others until all sore throat, discharge from the throat, eyes, nose or ears, and albuminuria have disappeared. Probably a safe limit for quarantine in those who have been exposed to infection would be about twelve days.

The first thing to be done is to instantly isolate the patient. Put him to bed in a large, airy room at the top of the house, fix up the carbolic sheet over the door, and carry out all the precautions for disinfection.

Everyone except the attendants should be kept away from the room, and all children should be sent from the house, remembering, however, that they may already have taken the infection, and may shortly sicken with the disease.

Typhoid Fever.—Typhoid fever (enteric fever) was for many years confused with typhus fever, but it is now recognized as being quite a distinct disease. This fever can not be looked upon as infectious, but is contagious—that is, it can spread from one person to another, or occur in regular epidemic form, but to infect the body the poison must be taken directly into the system—must be sown on the soil where it is to grow.

The contagion is produced by the typhoid germ itself. Every case must be distinctly caused by the poison produced by another. The poison is given off from the body in the stools. It may be taken in the sick-room through want of cleanliness, the motions being allowed to remain in vessels without being thoroughly disinfected, or by the clothes or hands becoming soiled with them. As has been said, an epidemic may be traced to the occurrence of a single case in a district, by which the disease has been carried from a distance. The motions insufficiently disinfected are thrown down the house drains and enter a cesspool; from this the poison germs gradually soak through the soil into a neighboring well, and all who drink of this polluted water may fall victims to the disease.

Typhoid fever is an acute infectious febrile disease, due to a specific poison, the germ of which is known as the bacillus of Eberth.

The poison is contained in the discharges of patients suffering with the disease, but not in the fresh feces.

The disease can be carried on the clothes or hands, through carelessness, from the patient to others. The fact that the stools when first passed are not nearly so dangerous as they become after a time is very important when considering preventive treatment.

Symptoms of Typhoid Fever.—The symptoms come on gradually and insidiously. The patient feels weak, ill and miserable; loses appetite; complains of headache across the forehead, and is feverish. He sleeps badly, has bad dreams, and is heavy and weary during the day.

The fever then appears usually preceded by a chill or chilly sensation; the tongue is coated; appetite gone; the bowels are slightly constipated and the abdomen is a little swollen, giving a hollow sound when tapped on with the finger; there is tenderness on pressure over the groins, and in a few days diarrhea usually sets in and is a constant symptom throughout the disease.

Eruptions of the Skin in Typhoid Fever.—About the eleventh day, or thereabouts, the typhoid eruptions may be discovered if carefully looked for. The spots chiefly occur on the chest, abdomen and back. They are small, rose-red and slightly raised pimples, about the size of a small split pea; upon pressure with the finger they disappear, but soon return. Only a few occur at first, perhaps half a dozen, and if these are carefully marked, by making a ring round each with ink or a colored pencil, more will be found on the next day, and more still on the day after. This appearance in crops is very characteristic; each individual spot lasts for two or three days and then fades away, and spots in various stages are therefore present at the same time. The number of spots may only be about fifty during the whole course of the illness, and the spots themselves are not very distinct, so that the eruption may be altogether overlooked, unless careful search is made for it.

The Motions in Typhoid Fever.—Although constipation may be present at first, diarrhea is usually a marked symptom of typhoid fever, and often becomes severe at this time—that is, during the second week of the illness. The bowels become loose, and act three, four or a dozen times in the twenty-four hours. The appearance of the motions is peculiar, and unlike those of any other disease; they are liquid and of a pale yellow color, and really very closely resemble pea soup. If they stand for a short time they separate into two parts—a dark brown fluid and a light yellow powdery sediment. Such stools, in an otherwise obscure case, are sufficient to make us certain that it is typhoid fever. Other symptoms of the affection of the bowels are swelling of the abdomen, pain and greatly increased tenderness in the right and lower part, and a sensation of gurgling in the same place upon pressure with the hand.

In mild cases improvement may now begin, but in most the symptoms get worse. The temperature remains very high, the tongue gets dry, red and cracked; the patient becomes exhausted and prostrate. He sinks down into the bed and passes into a heavy, half unconscious or delirious condition. Blood may be passed mixed with the motions.

In favorable cases convalescence begins during the third or fourth week of the illness. The fever and feverish symptoms pass off gradually; the mind clears; the appetite improves; the diarrhea ceases; the tongue clears and the strength returns.

The Trouble is in the Bowels.—In typhoid fever there is always inflammation, ulceration and destruction of the glands which are situated in the mucous lining of the bowels, especially that part which is situated on the right side and lower portion of the abdomen. In many cases this produces the troublesome diarrhea, and as the disease passes off the sore places heal up and leave no permanent mischief; but if the ulceration involves a blood-vessel by eating through its coats, very severe and dangerous hemorrhage may occur. Such an accident may come on without any apparent cause, or may be set up by some unsuitable article of food or by any sudden exertion. If the bleeding is free, the patient suddenly becomes pale and faint, the pulse rapid and weak, and the temperature falls. These symptoms are shortly followed by a discharge of blood from the bowel, sometimes liquid and red; at others it is mixed with the motions, and black, sticky and offensive.

Inflammation of the Lungs is another dangerous complication, and is most common in the late stages of the illness, when the patient is suffering from the exhaustion and great debility of so severe and prolonged a disease. It is not easy to recognize, and, unless a physician is in constant attendance, might very likely be overlooked and cause a fatal termination to the case.

Treatment of Typhoid Fever.—When once settled in bed, the patient should not be allowed to get out again for any reason. Merely standing is dangerous. The bedpan and urinal should be used from the first.

Disinfectants.—A disinfectant should be placed in the bedpan before use, and more should be poured over the motions afterward, before they are emptied. The whole body should be sponged every morning and evening with warm or cold water, as the patient chooses. The hands and the face may be sponged more frequently. Good nursing is of the very greatest importance in this disease. The most minute particulars must be attended to, the patient kept absolutely quiet, free from worry and scrupulously clean, all of which is hard work, and will require at least two attendants.

Dieting for Typhoid Fever.—Many deaths are caused by giving solid food contrary to orders, through mistaken kindness or ignorance. The pip of an orange or grape, or small portion of indigestible food, may, by irritating the sore patches in the bowels, cause perforation and peritonitis, which will involve a very serious illness, if not rapid death. Milk is the most generally useful article for fluid diet; it must be regarded as a food and not only a drink. Life can be maintained by it alone, and many cases of typhoid are treated throughout with milk only. Under these circumstances, however, it must be given in large quantities; in adults from four to five pints a day, and in a child from one and one-half pints to one quart.

Beef-tea and clear broths are permitted, and the milk will then have to be lessened in amount. They should be arranged alternately, each being given every six hours. In great exhaustion concentrated meat extracts are necessary, a teaspoonful at a time given frequently. To quench thirst, any simple drink may be administered, and prove more refreshing when iced—*e.g.* water, toast water, barley water, etc.—but these should never interfere with the taking of nourishment. The motions must be carefully watched, and if curds of milk appear in them it must be given less frequently or in smaller amount, and a tablespoonful of lime-water added to each half pint. Beef-tea and meat extracts are liable to excite diarrhea, especially if given at all freely.

Food During Convalescence.—Peptonized milk is valuable and easily digested. The time will come as the patient grows better when it will be necessary to improve the diet and give solids, and the rule is that no solid food should be given until the temperature has remained at the natural level for a whole week; and even then it must be given carefully, and if the temperature rises again, or any adverse symptoms arise, stop it at once. The first change should be made by giving eggs beaten up in the milk or beef-tea; then bread-crumbs, well pounded, may be introduced; arrowroot, jelly, soft milky pudding, or, as a great luxury, a cup of weak tea. Unfortunately, fresh fruits, which would be so acceptable to the hot and thirsty patient, are seldom admissible, as they are liable to set up diarrhea; the fruity part of grapes or oranges, with all skin, pips or rind and indigestible pulp carefully removed, may be cautiously tried. Stimulants are not usually required in the first stages, but towards the end of a month's illness they may be called for, but should only be given in moderate quantities.

Preventive Treatment.—Drainage and ventilation, water-closets, traps and water supply must receive attention. No water should be used for drinking or cooking that could possibly be contaminated, without being boiled and filtered; all milk must be boiled also.

Medical Treatment of Typhoid Fever.—The physician should, of course, have charge of a case of typhoid fever. But a few suggestions may be in place.

The Antiseptic Treatment has superseded all other methods of treatment of typhoid fever. The alimentary canal is a perfect hot-bed of bacterial organisms. These are continually producing poisons, which are absorbed and cause many of the symptoms of the disease.

The antiseptic treatment will keep the bacterial growths in small numbers and a low state of vitality, and the bacterial poisons are very much lessened and consequently are not present to be absorbed.

Many antiseptics are employed in the treatment of typhoid fever. Chlorin stands at the head. The dose of the chlorin solution for an adult is a tablespoonful in half a tumblerful of water every two hours. This quantity may be increased or decreased as necessary, the main point being to give enough to make the stools smell strongly of chlorin, to insure its thorough action upon the intestinal coats and contents. The mouth should be rinsed after the medicine is taken, to prevent injury to the teeth.

The medicine should be administered until the temperature has been normal four or five days. The duration of the disease is distinctly shortened, and convalescence is more rapid.

At the beginning of the treatment give a thorough purge; give a powder containing one grain of calomel and two of bicarbonate of soda every hour until the desired result is secured; the object being to remove fecal masses and all fermenting substances.

If the symptoms grow serious, the following solution may be given:

℞.	Strychniæ	1 grain.
	Acidi nitrici dil.	1 drachm.
	Tincture opii	2 drachms.
	Aquæ	q. s. ad. 4 ounces.

M. Sig. One teaspoonful in sweetened water every three, four or six hours, according to the urgency of the symptoms.

If the abdomen remain very tympanitic and the intestinal evacuations too frequent, a dose of the turpentine and laudanum emulsion may be given between the doses of the strychnia solution until those symptoms are sufficiently restrained.

Next in value to the chlorin treatment is the following. On the appearance of earliest symptoms of typhoid fever begin the treatment with the following tablets, each containing:

℞.	Podophyllum resin	1-960 grain.
	Mercurous chloride, mild	1-16 grain.
	Guaiacol carbonate	1-16 grain.
	Menthol	1-16 grain.
	Eucalyptol	q. s.

One tablet of this formula should be given every fifteen minutes during the first twenty-four hours, and increase the dose if necessary during the second twenty-four, until during this and the succeeding twenty-four hours not less than five or six free evacuations of the bowels are secured during each of these periods.

Typhus Fever.—Typhus fever is an infectious disease which occurs among the poor, dirty, ill-fed inhabitants of large towns far more frequently than among the rich and well-to-do. Overcrowding and starvation are its two great predisposing causes. It affects persons of all ages.

It is very infectious under certain conditions, and causes severe epidemics in crowded districts; but the infection is somewhat peculiar: Within a few feet of the patient the danger of taking the poison is very great; at a distance of a few yards there is very little fear of doing so. The breath and sweat are very offensive; doubtless the poison comes from the breath.

Symptoms.—The patient feels ill, weak and miserable; goes about his duties in a listless and heavy way; his thoughts are confused and wandering, and he can not follow any definite train of thought. From the second to the fourth day the symptoms become too bad for him any longer to get about, and he is forced to go to bed. From this to the end of the first week the

Rash Comes Out most distinct on the abdomen and chest. It is first of a dull mottling or patchy discoloration of the skin, quickly followed by dusky red spots, somewhat similar to those of measles. Distinct at first, they gradually fade.

The Most Important Complication is inflammation of the lungs, which is very fatal. During the third week convalescence proceeds and all the symptoms decrease. But it is seldom before the end of a month that the patient has regained his strength, for the exhaustion and debility produced are extreme.

Treatment.—Isolation is essential, in as well ventilated and airy a room as possible. The attendants should be those who are protected from infection by a previous attack, and anyone else entering the room should keep at a good distance from the patient. All carpets, curtains and unnecessary furniture should be removed. Disinfectants must be used freely in the room, and when the case is over the bedding, clothing and furniture should be thoroughly disinfected, and the whole room purified.

The Diet should be light and fluid while the fever lasts. Plenty of simple drinks may be allowed to relieve the thirst, and as the patient is half unconscious and will never ask for food, the greatest care should be taken that it is given sufficiently frequently and freely to maintain the strength. The fever may be relieved by some simple fever mixture as the following:

Solution of Acetate of Ammonia, 1 drachm.
Citrate of Potash, 20 grains.
Syrup of Orange, ½ drachm.
Water to the ounce.

To be given every three hours.

Constipation must be relieved by enemata. See to it that the patient is roused at regular intervals to pass water. If inflammation of the lungs arises, shown by difficulty of breathing and blueness, five drops of ipecacuanha wine should be added to the mixture.

During convalescence the food must be increased, and tonics, especially quinine, given.

Influenza.—Influenza (epidemic catarrhal fever) might be very properly called a truly epidemic disease. It has been known for many years, but has probably never, until the last few years, occupied public attention so widely or been a subject of such very general interest.

The cause of the disease has been and still remains a mystery. Its origin is so obscure; it sweeps over countries, continents, or even the whole world with such rapidity; it affects all persons—young and old, rich and poor, healthy and diseased; its visits are irregular and indefinite in their intervals and warnings; its departure is so rapid and complete, that the mind is simply baffled in any attempt to understand and explain it.

It has been proved to be quite independent of climate or season, drainage, public hygiene, or the usual sanitary evils so important in other infectious fevers. There are many reasons for doubting the contagiousness of influenza. The disease breaks out simultaneously in many places widely apart.

Symptoms of Influenza.—At one time the respiratory organs have been chiefly attacked; at another, the digestive organs or the nervous system. Sore throats, coughs, aching rheumatic pains, severe vomiting and excessive prostration have all been prominent symptoms at different times. The illness begins suddenly with chilliness, shivering, cold down the back, followed by flushes of heat, dryness of the skin and fever. Pains are felt in the head, chest and limbs; the eyes feel hot and ache, and the patient complains of great lassitude and weakness. The old-fashioned influenza cold, with free discharge from the nose, frequent sneezing and watering of the eyes, sometimes occurs, but is not at all an essential part of the illness. Sore throat is common, with a dry, irritative cough, followed later by free expectoration of thick phlegm, ending, perhaps, in an acute attack of bronchitis. When the digestive organs are involved, there is great loss of appetite, nausea, troublesome vomiting, constipated bowels or diarrhea, and occasionally slight jaundice, ringing in the ears, restlessness and inability to sleep.

The Treatment in a mild case is simple. Go to bed at once in a well-aired, warm room, cover yourself up well, take plenty of warm drinks and light food, get the bowels well opened, and keep the skin acting with a dose of the following fever mixture:

(This is one dose.)

Sweet Spirits of Nitre, 20 drops.
Solution of Acetate of Ammonia, 2 drachms.
Syrup of Lemon, ½ drachm.
Water to the ounce.

To be taken every four hours until the temperature falls to nearly normal; a teaspoonful to be given to children under five years of age.

If the pains in the limbs are very severe, add to the mixture seven grains of salicylate of soda for each dose; if the cough is troublesome, five drops of ipecacuanha wine added in the same way will be found useful.

A flannel nightdress is an advantage, as free perspirations are common, and the treatment advised will also act in this way; linen clothes are likely to cause chill if soaked in perspiration.

As convalescence is established, the food must be more nutritious and larger in quantity; tonics, such as bark and ammonia (Pr. No. 5, list A), or quinine and iron (Pr. No. 6, list A) are also necessary, and very often a change of air should be taken to complete the cure.

An attack of influenza may be treated without the advice of a medical man.

Cerebro-Spinal Fever.—Cerebro-spinal fever is an infectious fever. It occurs in epidemics. The most important part of the disease is an inflammation of the membranes of the brain and spinal cord.

Symptoms.—The disease sets in with a general feeling of illness, accompanied with fever, headache and pains all over the body, or with more severe symptoms referable to the nervous system—such as intense headache and giddiness, violent muscular spasms and persistent vomiting. The patient soon becomes restless, irritable and delirious; at times he screams out from the acute pain caused by the contraction of the muscles of the neck. Different kinds of eruptions appear on the body during the progress of the disease.

Treatment.—A liniment, consisting of equal parts of camphorated oil and turpentine, briskly applied by friction up and down the spine until redness is produced, will cause some alleviation of the suffering; a strip of flannel saturated with turpentine, placed over the spine, from the neck to the sacrum, and a hot smoothing iron run up and down it, every three hours, may be used with good results, in cases of total unconsciousness.

In the beginning the following prescription should be used:

℞. Bromide potassium	5 drachms.
Aquæ	4 ounces.

M. Sig. Teaspoonful every two hours to a child of four years; for adults, more in proportion to age.

If convulsions occur one teaspoonful of the above should be given every fifteen minutes until they cease.

The following mixture should also be given:

℞. Fl. ext. ergot	5 drachms.
Simple elixir	q. s. 4 ounces.

M. Sig. Teaspoonful every three hours to a child of eight or ten years.

The diet from the beginning to the end of the malady should be the most nutritious, and such as is easily digested; it is necessary to give it in a liquid form. If there be excessive vomiting after forty-eight hours, iced milk and lime-water may be administered, and the patient given small pieces of cracked ice to swallow. Opium is one of our most valuable remedies in the treatment of this disease, but should never be given without the advice of a physician. A great deal depends upon good nursing. In cases of cerebro-spinal fever the patient should be placed under the care of a good physician as soon as possible.

Cholera.—Asiatic cholera, according to recent investigations, is an affection owing its origin to the presence in the system of a peculiar microscopical germ. It is an epidemic disease, characterized by violent vomiting; by frequent purging of a colorless fluid having the appearance of "rice water;" and by collapse, in which state there is loss of pulse, oppression in breathing, suppression of urine, cold perspiration, blue and shrunken skin, and extreme depression of all the vital functions. It terminates in death (sometimes in a few hours); in reaction and a recovery of health, and in various grave conditions which arise as complications during the stage of reaction.

Cholera Germ.—That cholera had its origin in some material, specific cause had for a long time been held by all the leading investigators; but not until a comparatively recent period (1884) has the fact been established that the pestilence was caused by the presence in the system of a minute germ, one so small as only to be discerned under the most powerful microscope.

Cholera Has Its Origin in impure or bad drinking water, bad drainage, impaired health, fear or fright, and the miseries of poverty, squalor and filthy surroundings. Foul water, however, will not of itself produce cholera; it must first be polluted by the presence of the germ. A crop can not be produced from a soil, be it ever so rich, if the seed has not been planted. Neither will a crop be produced, even if the seed has been planted, unless the soil be good. Hence, the individual or the city surrounded by thoroughly wholesome influences, subjected to good sanitary regulations, and sustained by the best hygienic measures, need have but little fear of cholera, as all these conditions are unfavorable to the support of the cholera germ.

Symptoms of Cholera.—If taken in time, many cases of cholera are capable of successful treatment, which, if allowed to get well under way, resist the most powerful remedies known to the profession.

Those who die of cholera present a mottled appearance of the skin, the limbs are livid and shrunken, the mucous surface of the stomach and intestines is injected and swollen, the muscles of the body are sometimes contracted, and the death chill comes on more rapidly than is usual after death from other diseases.

Treatment.—General sanitary rules should not only be observed, but every household should be put in order for the unwelcome visitor by preventive precautions. Drains should be thoroughly examined, and the least imperfection in their construction promptly removed. The cellar, the yard, the outbuildings, the alley, the chicken-houses, the pig-pens, all the surroundings of the dwelling-house, and the house itself from basement to garret should be gone over, cleaned, purified and disinfected. Everything objectionable, and which by decomposition might pollute the air, should be speedily banished from the premises. Cleanliness, sunshine and a plentiful use of disinfectants will surely keep the foe away, as has been repeatedly proven. Clean or pure drinking water is especially desirable in cholera times. No well should be used if in proximity to cesspools, drains or sewers.

Diarrheas, especially those of a watery nature, must not be neglected for an instant during a cholera season. It must not be forgotten that cholera is frequently introduced by a diarrhea, which, if treated at once, might be followed by a complete prevention of serious symptoms.

Chloral in combination with morphine, is the favorite remedy with some physicians. The most effective method of administration is by hypodermic injection. Chloral, three drachms; morphine, four grains; cherry laurel water, one ounce; dose, from fifteen to thirty drops injected beneath the skin.

Chloroform in doses of a few drops frequently repeated, is sometimes used with highly beneficial results. It will sometimes allay the vomiting and diarrhea, relieve the cramps, and restore the body to its natural warmth.

Ague.—Ague, or intermittent fever, is produced by the poison of malaria; this is due to a vegetable organism or bacillus, which is produced in certain places as the result of climatic and local conditions.

These districts are particularly common in tropical countries, but are also found in temperate places.

Symptoms of Malaria.—The symptoms produced by malaria are various. Some of the most important are a class of fevers to which many names have been given, such as ague, intermittent fever, malaria, or paroxysmal fever. The one feature peculiar to this trouble is the regularity with which the fever and the ague return, and the firm hold they have on the person who has once fallen a victim. The attacks come on in three forms: every twenty-four hours, every forty-eight hours or every seventy hours.

A fit of ague is usually preceded by some warning symptoms. The patient complains of a feeling of chilliness down the back, which rapidly spreads all over the body. His teeth chatter, his breathing and pulse are quick; pains are felt all over the body and in the head; altogether he feels miserable.

Treatment for Ague.—During the attacks there is little to be done. No drug is known that will cut short or in any way alter their course; they must, therefore, be allowed to run through their several stages.

Quinine is the one drug which will drive out the poison, and must be given freely. The time of its administration is of importance, and the routine treatment should be as follows: When the sweating stage is fully established a dose of ten grains of sulphate of quinine should be given dissolved in a few drops of dilute sulphuric acid and a tablespoonful of water, or two five-grain tabloids may be used instead; from four to six hours afterwards this dose should be repeated, and if the attacks are severe a third dose may be required before the time at which the next attack is expected. These measures may prevent the next attack coming on; if it does not, the treatment must be repeated.

Rules Governing the Administration of Quinine.—The best results are ordinarily obtained by giving from fifteen to twenty grains when the temperature begins to fall. Good results may be obtained by giving ten-grain doses, three, four or even six hours apart, during the decline.

If the paroxysms take place early in the day, so that the temperature begins to fall early in the afternoon, the full dose may be taken that day. But if the attacks come later, one dose may be taken in the decline, the next on the following morning. If the paroxysms come later in the afternoon or evening, the full dose (twenty grains) should be taken on an empty stomach next morning. If the next paroxysm is missed, the quinine should be withheld. If, however, there is any rise of temperature, ten grains should be given. After the last paroxysm no quinine should be given until the seventh day. To simplify the above statement, the following method may be used for the routine treatment of simple cases:

First day in the decline, 15 to 20 grains of quinine.
Second day, if necessary, 10 to 15 grains.
Third, fourth, fifth and sixth days, no quinine.
Seventh day, 20 grains.
Eighth to fourteenth day, no quinine.
Fifteenth day, 20 grains.
Sixteenth to twenty-first day, no quinine.
Twenty-second day, 20 grains.

If fever occurs after this period a full dose should be given and the treatment continued.

After the paroxysms have been broken the patient's strength should be restored as soon as possible. Light stimulants may be taken at meal-time and the bowels should be regulated. Bitter tonics are always indicated. The following mixture is one of the best:

℞.	Quininæ sulphat.................	40 grains.
	Acid hydrochlor dil..............	5 drachms.
	Fluid ext. taraxaci...............	2½ ounces.
	Elix. calisayæ...........	q. s. ad. 6 ounces.

M. Sig. Large teaspoonful in a tablespoonful of water, after meals, three times a day.

CHAPTER XXIX

TREATMENT OF VENEREAL DISEASES

SPERMATORRHEA

Treatment.—The first thing to be done is to remove, if possible, whatever cause there may be; and in the second place our best efforts must be directed toward building up the general health, which will be found invariably to be reduced. If the patient is troubled with constipation, piles, gravel, worms or any of those affections which are a source of irritation to the genitals, a cure must be made in that direction before anything can be done for the spermatorrhea. Indeed, a very simple course of treatment may cure a most aggravated case, for in the removal of the cause often the disease itself is cured. A patient afflicted in this manner must make up his mind that whether he is cured or not depends almost altogether on what he is able to do for himself. If he can leave off all bad habits, take no stimulants either in the form of food or drink, attend carefully to his diet, avoid constipation, avoid everything of an exciting nature, he will, especially if he be a young man, have very little trouble with spermatorrhea.

Use of Medicines.—So far as concerns the use of medicines, people are liable to expect much more from them than what they usually derive. Individuals with this affection are very fortunate if they are cured by the use of medicines alone; and as for being cured at all, there is no medicine in the world, nor any course of treatment known to man that will cure, or even improve, the patient's condition, so long as the exciting cause remains. We give the following prescription as very useful where there is sexual debility and nocturnal emissions, either from weakness in the organs or general debility: Bromide of potassium, one ounce; tincture of iron, one ounce; water, three ounces; dose, one to two teaspoonfuls after each meal and at bed-time; it should be taken in a little water. This is also a very valuable prescription for seminal emissions: Tincture of chloride of iron and fluid extract of ergot, each three ounces; dose, a teaspoonful in water after each meal.

Diet and Hygienic Treatment.—In the course of the treatment, if there is much burning in passing the urine, a mucous discharge and redness at the opening of the urethra, the patient must be put upon a milk diet, for a time at least; avoiding fat meats, he may partake of fruits of almost every kind; he may also eat plentifully of potatoes, which, besides being very nutritious, seem to have a particularly benign effect upon the irritable urinary passages.

Much attention must be paid to cleanliness: the body should be bathed every day, and the genitals should be bathed in cold water both night and morning. As constipation frequently accompanies spermatorrhea, laxatives are often an essential part of the treatment.

A cold bath should be taken just before retiring, the water being poured along the spine from a height, for three to ten minutes. The bladder should be thoroughly emptied, and a position on the back avoided, as this posture allows the urine to accumulate and press upon that portion of the bladder which is most sensitive. It is sometimes necessary, when one can not break himself from assuming such a position during sleep, to wear a plate with a projecting piece, fastened on the back with a strap or belt, or what is equally good, to tie a towel around the body with a hard knot in it just over the spine.

GONORRHEA

Treatment.—If a patient wishes to get rid of his gonorrhea, it is of the first importance that he live, for a time at least, an abstemious and continent life. He must drink no alcoholic stimulants of any kind during treatment. Malt liquors, beer and ale are especially pernicious. It is found that these substances tend to create in the urine sharp crystals of uric acid; they strongly acidify the urine, which condition, in itself, may inflame the urethra.

It is also advisable, during the height of the disease, to abstain from coffee, highly-seasoned food, salt meats and asparagus. If there is the sensitiveness in the testes, a suspending bandage should be worn, and over-fatigue should be avoided, as well as violent exercise either in work or play.

Blindness from Gonorrheal Discharges.—It is customary with physicians, on seeing a case of gonorrhea early in the acute stage, to first give an alkali in order that the urine may be rendered bland and unirritating. If it is thought necessary to take an alkali, the citrate of potash will be found as effective as any, and it may be prescribed in doses of from ten to twenty grains, three or four times a day. If there is much scalding on making water, it is well to drink freely of flaxseed tea. The medicine most commonly employed in the acute stage, is balsam copaiba; it is better to reserve the use of injections until the acute symptoms have somewhat subsided. Before describing the usual method of treatment and the medicines most frequently relied upon to effect a rapid cure, there is a warning which we wish to impress deeply on the mind of the reader: *Care should always be taken not to get any of the discharge into the eyes.* Blindness has occurred many times from this cause.

Some Medical Prescriptions for Gonorrhea.—The highest authorities regard balsam of copaiba as the most valuable medicine of all those used for internal treatment, though there are great objections to it in some cases, from the fact that it can not be tolerated by some stomachs. If not used with prudence it also produces a peculiar skin eruption. The other remedies used internally are cubebs, oil of yellow sandal-wood, sweet spirits of nitre, buchu, colchicum, turpentine and cantharides. Turpentine and tincture of cantharides are more especially adapted to the chronic stage.

The following is a formula from Professor Bumstead, which has given more satisfaction in our own practice than any we have ever made use of in constitutional treatment: Balsam of copaiba and sweet spirits of nitre, each one ounce; liquor potassæ, two drachms; extract of licorice, one-half ounce; mix well together, and add oil of checkerberry, sixteen drops, and syrup of acacia, six ounces; dose, a tablespoonful after eating. Both copaiba and oil of sandal-wood are put up in capsules, which may be had at any of the drug stores.

Chordee frequently gives much trouble, and, as far as known, there are no medicines which effectually remove it in all cases. The patient should sleep on a hard mattress, on his side as much as possible, and cover himself very lightly with bed-clothing. As a rule, the following will prevent its occurrence; it has been found more powerful than anything we have ever made use of: Opium, one grain; camphor, two grains. This dose may be taken at bed-time, put up in a capsule. A very effective way of relieving chordee, when a patient awakes with it during the night, is that of immediately arising from bed and placing his posterior against a cold wall. The patient will also derive much benefit from immersing his penis for a considerable time in quite hot water before retiring.

Injections for the Urethra—A Caution.—It is not advisable to use injections in gonorrhea during the acute stage, or when the inflammation is at its height. At this time they would not only be ineffectual, but might really do harm. Some cases of gonorrhea are mild or sub-acute from the start; especially is this so in patients who have had several attacks. In these cases injections are not only proper, but are usually much more efficient than any other remedies. Injections, then, in this class of mild cases and in what is known as the stage of decline of acute gonorrhea, are of the greatest service.

Formulæ for Injections of Urethra.—Any one of the following formulæ may be used by the patient. Some physicians have a predilection for one, and some for another. The most frequent agent used as an injection is sulphate of zinc; the strength should be from one to three grains to the ounce of water. It is better to commence with it in the weakest proportion, increasing gradually, if it is well borne and does not produce too much smarting. An injection may cause a little smarting and still do good, but it must not be too severe nor too long continued. Another very efficient agent is tannic acid, in the proportion of from five to ten grains to the ounce of water. The following is a very useful prescription: Diluted solution of sub-acetate of lead, six ounces; sulphate of zinc, twelve grains; to be used as an injection three or four times a day.

Two or Four Times a Day.—All the formulas for injections are used from two to four times a day, according to the effects produced; and while water is generally used as the vehicle of the active agent of the prescription, glycerine may be added with advantage in many cases; thus, if the prescription, three grains of sulphate of zinc to one ounce of water, is employed, its curative properties may be increased by making it half glycerine and half water, or one-fourth glycerine and three-fourths water.

SYPHILIS

Treatment.—The treatment of syphilis is tonic and specific (directed against the poison itself). The tonic treatment includes hygiene, or a strict attention to the laws of health; the remarks as to diet and habits of life in other portions of this work apply with increased force to constitutional syphilis.

Patients who acquire the disease and have previously led wrong or dissipated lives must give up all bad habits, reform, observe temperance in all things, and mark out a plan of life the close observance of which will tend to increase vigor of body and promote harmony and peace of mind.

Excesses of all kinds are injurious, but the emotions especially should be kept in restraint; scrupulous cleanliness and the functions of the skin should be maintained by frequent bathing; and for this purpose the warm bath should have the preference.

The medicines relied upon as tonics are quinine, iron, cod-liver oil and other supportives. Tonics are especially valuable combined with the specific medicines.

The Cure of Syphilis, however, so far as a cure can be consummated, is brought about by the judicious use of mercury and iodide of potassium or some one of the preparations of iodine. Mercury is depended upon for the treatment of the early, and iodine for the later symptoms.

Mercury a Specific.—Mercury, in the early manifestations of syphilis, is specially potent. Under its kindly influence the chancre heals, the early eruptions fade. If given continuously and intelligently from the first, syphilitic fever rarely amounts to more than a little pallor, and the early eruptions, instead of being general, are more or less separate. Properly administered, it may be taken for years without any injury to the individual or to his constitution, either immediate or remote. It has no connection as a cause with the appearance of severe tertiary forms of syphilis.

Care in the Use of Mercury.—Considerable experience is required in the use of mercury to produce just such effects as may be desired. It has been observed that, where it is desired to bring the patient rapidly under its influence, calomel is the best form for the purpose; very minute doses, one-twelfth of a grain, administered every hour, will produce slight symptoms of salivation, as tenderness of the gums, in from twenty-four to forty-eight hours.

Other Forms of Mercury.—The bichloride, the protiodide and blue pill are the particular forms of mercury commonly used in syphilis, where it is necessary to employ the remedy for an extended length of time.

These preparations are now put up in granules, and the patient has no trouble so far as regards accuracy of dose and convenience of taking.

A Caution: Look Out for Salivation.—There is no doubt but that mercury is decidedly hurtful if used improperly. In the first place, it should never be taken to the extent of producing positive salivation; salivation is harmful, but not at all necessary to its action on the system. The old idea that mercury, in order to affect the disease, must necessarily affect the gums, has been thoroughly exploded. "Touching the gums," as this is called, should not be aimed at, and if this symptom does arise the dose must be immediately reduced. The amount of the medicine required to produce an effect upon the gums varies with different individuals. Should slight symptoms of salivation occur, the gauge of the patient is then, of course, learned at once, and the treatment can be so regulated as to meet the exact requirements of the disease.

A Remedy for Salivation.—Accidental cases of salivation, requiring treatment, sometimes occur; fortunately we have in chlorate of potash a most efficient remedy; it is said that large doses of the chlorate will keep off salivation during a course of mercury, without in the least interfering with the curative effects of the latter. Chlorate of potash may be given in doses of from fifteen to twenty grains every few hours, dissolved in water; the aim is to get from one to two drachms into the system during the twenty-four hours; ten grains of the same to one ounce of water, should at the same time be used as a gargle.

Bichloride of Mercury.—Of mercury, when given in the form of the bichloride, which in all probability is the form most frequently used, the dose is from one-thirty-second to one-tenth of a grain. We herewith give a few prescriptions favorably known, and emanating from the highest authorities. It is customary with some physicians to combine the iodide of potassium with the mercury in the same prescription, and for prolonged treatment this method is regarded as the best. The iodides are not considered as of special value in early syphilis, either alone or combined; it is in the treatment of late syphilis that this drug shows its power for good. When syphilis has reached a stage where the eruptions have a marked tendency to remain long chronic, where they are of a scaly appearance, and when they show a disposition to aggregate in patches, iodide of potassium is then indicated.

Prescriptions for Syphilis.—The following is a New York hospital formula, and of special service where there is general debility: Bichloride of mercury, four grains; tincture of chloride of iron, one ounce. Dose, ten drops in water after eating.

If the pill form is preferred, the following closely resembles the preceding: Bichloride of mercury, one grain; reduced iron, one-half drachm; enough gum tragacanth and glycerine to make into a mass; mix and divide into fifteen pills. Dose, one pill three times a day.

Another Formula.—Bichloride of mercury, one grain; iodide of potassium, two drachms; compound tincture of gentian, four ounces. Dose, a teaspoonful three times a day.

Another Prescription.—Biniodide of mercury, one grain; iodide of potassium, four drachms; compound syrup of sarsaparilla and water, each two ounces. Dose, a teaspoonful three times a day.

Another Caution.—Like mercury, the iodide of potassium is capable of doing harm under certain conditions. One of its evil effects is that of producing, indirectly, salivation. After a course of mercury, it is necessary, in commencing the iodide treatment, to exercise some care. There is also a peculiar condition, known as iodism, sometimes brought about by its administration.

Iodide Treatment.—Iodide of potassium is a most valuable remedy in what is known as the "gummy ulceration" of tissues, as of the nose, the throat and skin.

Prescription.—Iodide of potassium, two drachms; iodide of ammonium, one drachm; compound tincture of cinchona, three ounces. Dose, a teaspoonful, largely diluted with water, after eating.

Duration of Treatment of Syphilis.—Treatment of syphilis, according to the experience of the authors, should last at the very least two years—one year with mercurials, one year with mixed treatment—and this in cases which show only the mild lesions of glandular enlargement, a few papules or roseolar patches, mucous and scaly patches in the mouth, and sore throat.

To this class belong nearly all cases treated steadily and conscientiously, continuously from the first. It is the rare exception to find such patients showing bad symptoms during their treatment or developing serious lesions afterward. In other words, those cases do badly most often which are irregularly and spasmodically treated, and those cases are most apt to be prolonged and obstinate, and, indeed, to crop out in severe lesions at late date after chancre, which have not followed a continuous, persistent, prolonged, mild mercurial course at the start.

Treatment of Syphilitic Eruptions.—There are certain forms of syphilitic eruption which require, or which are at least much benefited by, treatment of the parts. The eruption known as "mucous patches" is of this order, and being so common and persistent a symptom, a knowledge of the best special methods of treatment is a matter of more than ordinary importance.

The mucous patch may be round or oval, pale in color or deep red, elevated above the surrounding surface or depressed, and may vary in size from a pin's head to that where a considerable area of surface is covered, especially when several have run together. They are usually moist, but when occurring upon the skin they are occasionally dry and wart-like; they are sometimes then called condylomata. Their most common situation is about the mucous orifices, as the mouth, throat, anus and vagina. Their favorite situation on the skin is in those regions where two surfaces lie in contact, as on the scrotum, between the toes, on the perineum, about the anus and on the thigh.

These patches are apt to ulcerate if neglected, or when subjected to friction, or where no attention is paid to cleanliness. They are often found in the form of ulcers, at the angles of the lips and in the throat; and as the secretion of the mucous patch, whether ulcerated or not, is highly contagious, the patient who is thus affected can not exercise too much care or be too watchful against the danger of spreading the disease among his companions or the members of his own family.

Treatment for Syphilitic Ulcers.—Dust the surfaces affected, after washing and drying, with a powder of equal parts calomel, oxide of zinc and iodoform, and keep the contiguous surfaces apart by dry lint.

Another Treatment.—Tannin in glycerine, one-half drachm to the ounce, applied to the ulcers.

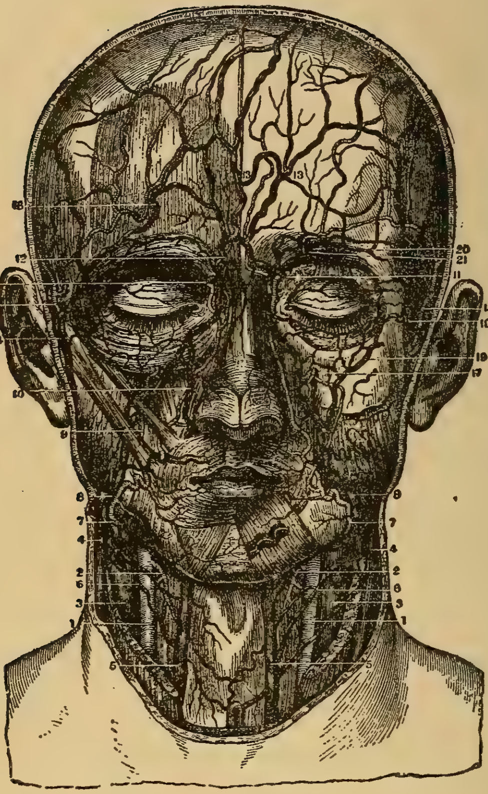
Other Forms of Eruptions.—Mucous patches become less frequent in syphilis in the later stages; but in their place appear other forms of eruption of a more severe character. In the tertiary stage the most common form of the skin eruptions is that known as the "gummy ulceration." It may appear as a small tubercle, which quickly ulcerates and runs a most destructive course. Its favorite situation is upon the lip, nose, ear or penis. This ulcer is fearful in its ravages, destroying, as it progresses, everything in its course—muscular tissue, cartilage and bone. In some cases the whole nose, lip, ear or a large portion of the penis are eaten away. The periosteum of the bones is liable to this destructive action, and thus the skull, the collar bones, or the bones of the forearm or leg may be involved in the process.

Syphilitic Affection of the Bones.—Syphilitic affections of the bones occur usually in the tertiary stage, though they may occur earlier. Any bone in the body may be affected, but certain of them suffer by preference; notably the superficial bones, or those of the skull, the clavicle, the ribs, the ulna and the tibia; the thin bones of the nose and pharynx are very frequently involved. The bones are attacked both from within and from without; usually the changes commence from within, but sometimes from without an ulcer eats its way down and exposes the bone to the process.

A very common affection of the bony tissue is that in which a serous material, the result of inflammation, appears beneath and raises the periosteum into an oval swelling, shading off insensibly in all directions. This swelling is known by the name of "syphilitic node." It may be very small, or it may cover a large surface. Nodes are painful to pressure, and are often, especially at night, the seat of continuous pain of an aching, throbbing and boring character. It is the presence of these nodes on the inner table of the skull that gives rise to paralysis, epilepsy, insanity and a variety of symptoms.

Finally.—We have given a somewhat extended treatment of syphilis, but with no thought or purpose of encouraging patients to treat themselves. Seek first of all, on the very first symptoms, a skilled physician. The information given on the preceding pages will aid the patient in following the directions of his physician. We hope it will also startle him into seeing and comprehending the awful condition he is in. There must be no dallying with this foul disease. A tainted man or woman is a very leper in the midst of the people.

FIG. 480.



ARTERIES AND VEINS OF THE HEAD AND NECK

FIG. 480.

A Front View of the relative Positions of the Veins and Arteries of the Face and Neck. On the Right Side the Superficial Vessels are seen, and the Deep-seated ones on the Left.

1. Primitive Carotid Arteries.
2. Superior Thyroid Arteries.
3. Internal Jugular Veins.
4. External Jugular Veins.
5. A Branch known as the Anterior Jugular Vein.
6. Superior Thyroid Veins.
7. Facial Arteries.
8. Facial Veins.
9. Zygomatic Branch of the Facial Artery.
10. Nasal Branch of the Facial Vein.
11. Anastomosis of the Facial Artery and Vein with the Ophthalmic Artery.
12. Venous Arch above the Nose.
13. Frontal Vein.
14. Temporal Vein.
15. Temporal Artery.
16. Frontal Branches of the Temporal Artery and Vein.
17. Infra-Orbitar Vessels.
18. Sub-Aponeurotic Branch of the Temporal Vein.

19.20. Venous Anastomosis around the Eye-Lids.

21. Frontal Branches of the Ophthalmic Vessels of Willis.

FIG. 481.

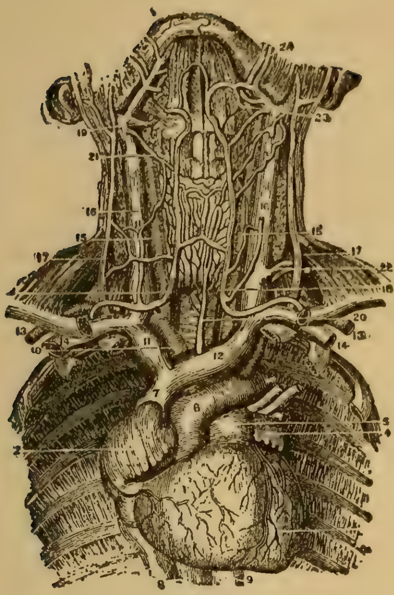
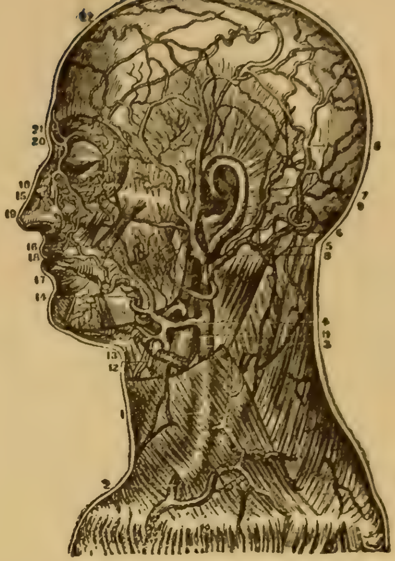


FIG. 482.



THE VESSELS OF THE HEAD AND NECK.

FIG. 481.

A View of the Heart, with the Great Vessels of the Neck in Situ.

1. Right Ventricle of the Hear
2. Right Auricle.
3. Left Ventricle.
4. Left Auricle.
5. Pulmonary Artery.
6. Arch of the Aorta.
7. Descending Vena Cava at its entrance into the Right Auricle.
8. Ascending Vena Cava.
9. Thoracic Aorta.
10. Arteria Innominata.
11. Right Brachio-Cephalic Vein.
12. Left Brachio-Cephalic Vein.
13. Section of the Sub-Clavian Artery.
14. Section of the Sub-Clavian Vein.

15.15. Primitive Carotid Arteries.

16.16. Internal Jugular Veins.

17.17. External Jugular Veins. Between these Veins is seen the Section of the Sterno-Cleido-Mastoid Muscle.

18. The Trunk formed by the Superficial Cervical Veins, known sometimes as the Anterior Jugular Vein.
19. A Branch from it to the Facial.
20. Main Trunk from the Inferior Thyroid Veins.
21. Superior Thyroid Vein.
22. Transverse Cervical Artery and Vein.
23. Lingual Artery and Vein.
24. Facial Artery and Vein.

FIG. 482.

A Side View of the Superficial Arteries and Veins of the Face and Neck.

1. External Jugular Vein, seen under the Platysma Myodes Muscle.
2. Anastomosing Branch from the Cephalic Vein of the Arm to the External Jugular.
3. External Jugular after the removal of the Platysma Muscle.
4. Communication of the External and Internal Jugulars by means of the Facial Vein.
5. Occipital Vein and Branches.
6. Occipital Artery.
7. Posterior Auricular Artery and Vein.
8. Point where the External Jugular is formed by the union of the Temporal and Internal Maxillary Veins.
9. Temporal Artery and Parietal Vein.
10. Frontal Branches of the same: on the top of the Head are seen the Anastomoses of these Vessels with the Occipital.
11. Internal Jugular Vein.
12. Superior Thyroid Artery and Vein.
13. Lingual Artery and Vein.
14. Facial Artery.
15. Point of its Anastomosis with the Nasal Branch of the Ophthalmic.
16. Facial Vein separated from the Artery, except at its Origin and Terminatien.
17. Inferior Coronary Artery and Vein.
18. Superior Coronary Artery and Vein.
19. Ascending Nasal Vein.
20. Nasal Branches of the Ophthalmic Artery and Vein.

21.22. Frontal Vein.

CHAPTER XXX

TWILIGHT SLEEP

The hour of childbirth is for the mother a most critical time, and only at the cost of great physical suffering and danger does she realize the joys of motherhood. While this statement is world-wide in its application, civilized women of the most highly nervous and intellectual types suffer most. The reason being the pace at which we live in modern days has left a definite impress on womankind, making such drafts on their stores of nervous energy that it has shown in increasing severity of labor pains.

Uses of Pain.—Not many at the present day contend that pain in itself is a good. It, indeed, serves a useful purpose in the economy of life, since it warns us of broken laws, but that does not prevent us from making use of every means known to science to alleviate suffering in surgical operations. The discovery of anesthetics is rightly regarded as one of the greatest achievements of modern science. Many delicate operations, which result in saving life and restoration of health, would be impossible if the subject could not be rendered unconscious during the operation. But Sir James Simpson declares that "the total sum of pain attendant upon natural labor is as great, if not greater, than that attendant upon most surgical operations."

Pain Exhausts Vitality.—Pain if severe and long-continued has a directly exhausting effect on the brain and nervous centers, lowering the vitality and decreasing the powers of recuperation. Competent authorities give us a formidable list of evils, which follow as a result of such exhaustion in childbirth. Often the brain centers are unable to send the requisite stimulus to the proper muscles and labor ceases. This leads to instrumental delivery, of which there is an alarming increase in recent years. Often as a direct result of exhaustion instruments have to be employed in cases where, structurally, there is no necessity for them. Such procedure is always accompanied with increased danger, and the spread of puerperal fever corresponds to the increasing frequency of the operation.

Pain Causes Invalidism.—Another direct result of exhaustion is the lessened power of recuperation. Weeks, months and even years of invalidism may follow. Nervous prostration is a frequent sequela. When we take into consideration what a sensitive woman has to undergo at such crises it is

A "TWILIGHT SLEEP" BABY AND MOTHER OF PENNSYLVANIA.

a matter of surprise that prostration does not occur more frequently. In short, the excessive pain of childbirth means a great sacrifice of vital force. Nature is kind and most women, if naturally robust, stand all this without permanent injury to their nervous system, but if there be a predisposition to nervous prostration, the physical pain and psychic stress of childbirth are liable to bring it on.

The Aim of Medical Science.—Obstetricians of the highest rank in this country and in Europe openly admit that the abolition of excessive pain, thereby escaping the dangers of a long train of evils is an end to be sought by modern science. We read that permitting excessive pain in labor cases is "an anachronism at the present day and a reproach to medical science." (Williams.) Because some women prefer to stoically endure all this, they are not to assume that they are some way a finer character than their sisters who seek relief. Advanced obstetricians, taking up point by point the processes of birth and pointing out how many abnormalities and impediments in the birth process are removed by eliminating pain, demand its annulment, not merely for the purpose of alleviating pain, but because it is safer, removing many dangers and thereby conserving the health of mother and child.

Obstetrics.—The branch of science, which has to do with childbirth problems, is the branch of medical practice, in which the profession takes the least pride for its achievement. This is the verdict of Professor Williams of Johns Hopkins University, who asserts that the fault lies primarily in poor medical schools, in the low ideals maintained by inadequately trained professors and the ignorance of the long-suffering, general public. Professors in charge of the Obstetric department of large hospitals, like Dr. McDuffey of New York, admit that in the matter of improved methods in obstetrics, physicians have been "altogether too callous and insufficiently active."

Medical Conservatism.—Learned professions, habituated to methods of procedure long followed, are generally very conservative. In law, for instance, precedents long out of touch with present day life still hold sway. The same rule applies to the profession of medicine, though medical practice must be conservative, because human life is at stake. It is contended that great innovations in practice have always had to fight their way to recognition. It is recalled that the two eminent physicians, who demonstrated the infectious nature of childbirth fever, were met with ridicule and one was actually driven into a madhouse. Sir James Simpson, who first made use of chloroform in labor cases, was opposed by almost the entire medical profession. However, at the present day, this faithful adherence to old methods does not have the sanction it once did, and new methods of procedure meet with a much more ready acceptance.

Danger of Anesthetics in Labor.—It should be observed that the use of anesthetics in labor presents features not present in general surgical operations. In surgery, it is desirable to produce complete anesthesia with relaxation of the muscles, but that result in labor means the stoppage of expulsive efforts and consequent danger to mother and child. Therefore, no form of anesthesia has shown itself quite safe for use in labor. And surgical operations in general are brief, not lasting more than a few hours even in the most extended cases, but labor may last many hours. For these reasons, it is not altogether professional conservatism that has made so many physicians hesitate to employ anesthesia in labor cases.

Benefits of Anesthetics.—But as Dr. Polack, of the Long Island Hospital, pertinently remarks, "we no longer ask our patients to submit to a surgical operation without ether or gas. Many of us use ether or chloroform as a routine during certain stages of ordinary labor, we likewise narcotise the patient for a forceps delivery. Why not extend this comfort to her through labor, provided some safe method of procedure is at hand?" And he asserts that anything that involves no specific injury to mother and child and at the same time relieves the long overhanging dread and final nervous shock of labor is a matter of supreme national importance, for it has an effect on the physical and mental condition and future of both mothers and children, hence on the future race itself.

Some Safe Method.—That is to say, provided the method does not increase the lurking danger always present in such a tremendously important physiological crisis as the birth of a child. Now, it is claimed that just such a method has been perfected in Germany, which country we are assured, stands at the very head of obstetric science. This method produces that peculiar modification of consciousness known as "Twilight Sleep." It is claimed that the majority of patients undergoing this sleep waken at the conclusion of labor with no recollection, or at least very little, of any pain, consequently free from the exhaustion such pain produces, and, therefore, able to make a quick recovery. These claims are so important that it is necesary to consider them carefully, inquire into the history of the method, see what is said for it, what objections are raised to it, and determine, if we can, what is to be its permanent place in obstetrics.

Scopolamine is the name of the drug relied on to produce the sleep. It is a hydrobromide of an alkaloid obtained from the scopolo plant. It is asserted by chemists to be identical with hyocine-hydrobromide, which is derived from the seeds and leaves of the henbane plant; but if so, nature has a secret known only to herself, for those who have had most experience in its use assert that hyocine can not be substituted for scopolamine, even if it be chemically the same. It was ignorance of this fact, which is thought to account for some of the bad effects that followed the use of the new methods in some hospitals.

Scopolamine not a Recent Discovery.—But it was little used until recently. At first, it was difficult to obtain a stable preparation. Most watery solutions quickly decompose after sterilization, so that in a few days it does not produce the desired effects, in fact it becomes a poison and bad results follow from its use. Not knowing this and so not testing the preparation before using to see if it was in the state desired, is also held responsible for much of the failure reported from some hospitals when they first employed it. But only recently a method of preparation has been devised by Professor Straub, of Freiburg, which is said to remain unchanged for years, thus eliminating this danger.

Scopolamine in Surgery.—When scopolamine was first found to possess narcotising properties attempts were made to use it in surgical operations and large doses were given to produce complete anesthesia, but so used, it did not give good results. From this failure a prejudice against its use generally was aroused—a prejudice that has made itself felt in its employment in obstetrics. Although not suitable for use in major surgical cases, it is still used for many purposes, for instance as a preparatory narcotic to fit the patient for chloroform-ether anesthesia. It is claimed that the amount of these latter drugs necessary to complete narcosis is greatly reduced by this method. It is also recommended as a substitute for atrophine, when necessary to dilate the eye for examination by an oculist. At least one alienist (Hoche) finds it useful in quieting excited patients, as it seems to have hypnotic influence.

Use in Obstetrics.—Its modern use in obstetrics was initiated by Dr. Von Steinbuchel of Frieburg in 1903, when he concluded to try it in labor cases to relieve the pain. More than fifty years before that date, Sir James Simpson had shown that chloroform given in minute quantities and repeated doses produced a state of consciousness on the border line between painful consciousness on the one hand and complete narcosis on the other, which state greatly assuaged the pains of labor. This discovery had been almost lost sight of, partly because in the hands of untrained operators it was often dangerous, and partly on account of medical conservatism, which we have mentioned, which opposed innovations in prevailing practices. Dr. Von Steinbuchel simply replaced chloroform by scopolamine in his experiments, using morphine as a preliminary narcotic. His success in mitigating pain was gratifying and to his own surprise he discovered that labor continued unabated, and frequently his patients came out from the influence of the drug with absolutely no recollection of any pain, though giving evidence of its presence while labor was in progress.

Development of the Process.—Subsequently his successors at Freiburg, Drs. Kronig and Gauss, continuing Steinbuchel's experiments, perfected the method to be followed in obtaining this peculiar state of consciousness, which was followed by amnesia (loss of memory) at the termination of the sleep. It was found that a slight modification of the doses used by Steinbuchel produced such a result in nearly all cases. This state of consciousness is scientifically described by saying that the patient **perceives** but does not **apperceive** the pain. This is to say, that in some way, the higher centers of consciousness in the cerebrum are "cut-off," so that though the lower centers in the cerebellum are awake and attending to all the animal activities of life, yet when the sleep passes away (after the child is born), the patient awakes, and the higher centers resume their rule, but with no recollection of what has passed, unless the sleep has been disturbed in some way, as by a failure to give the doses at the proper time.

Twilight Sleep.—This is the state of consciousness which has received the appropriate name of "Twilight Sleep." It has a great resemblance to somnambulism. The lower centers are certainly awake, the patient cries out as if in pain, she can maintain a rambling conversation (though this is not allowed), she gives irrelevant replies if questioned, and she is amenable to suggestions. When the doctor tells her to work harder—push harder—she obeys. But all this time, the higher centers are "cut-off." The telephone wires (nerves) leading to them have been disconnected (in some way, inhibited from acting).

This State Maintained.—It is the aim of the doctor to keep consciousness in this clouded state, avoiding alike full waking consciousness on the one hand and complete unconsciousness on the other. The principal test of this condition is the patient's irrelevant replies and dislocation of memory. "Did I take your temperature recently?" the doctor queries, or some other simple question. "The dog took it out of the room hours ago," is the fretful, irrelevant reply, which acquaints the doctor with her condition. But the number of doses, necessary to preserve this narrow balance, depends upon the physical peculiarities of the patient. No standard doses can be given, the "personal-equation" must decide in each case. This necessitates the constant presence of the doctor, who does not leave her side when labor is fairly on.

Labor Prolonged.—As a general rule, labor is prolonged by this treatment on an average from a half to a full hour, (Knipe). The Freiburg physicians insist that such prolongation free from pain, is far preferable to shorter labor accompanied with pain. Others assert it is often a distinct advantage. We are told (Polak) that nature requires time to properly dilate the parts and when this process is not accompanied by pain, as in Twilight Sleep, she proceeds leisurely to accomplish her purpose. It is claimed that as a result, there is not the sudden explosive efforts that sometimes attend severe labor and consequent avoidance of lacerations, and unless some pronounced structural reason appears, forcible delivery is avoided, and statistics show a decrease of about one-half the number of such deliveries. However, it must be said that some authorities object to the method, because of this prolongation, believing that it constitutes a danger to the child, (Hocheisen). But we are further assured (Knipe) that this feature is "of little account when the drug is properly used." After delivery, the patient is allowed to sleep off the effects of the anesthetics, and she awakes in most cases with no recollection of pain, and is often greatly surprised when baby is placed in her arms and she is assured that the ordeal is over.

Recovery.—That this method conserves the energies of the mothers is shown by their rapid recovery, doubtless, due to their being spared the shock that ordinarily attends the ordeal of childbirth. We read of patients waking from the sleep hungry and ready to enjoy a light breakfast; a few hours later, they can eat a hearty meal, apparently partaking of anything that suits their fancy. They are expected to indulge in light exercises while in bed, they are generally up and about their room a few minutes the first day, and a day or so later, they are often out driving, returning congratulatory calls. Means of comparison with ordinary labor cases are at hand in the same hospital, since for a number of reasons the sleep is not always produced. The wan and worn-out appearance and condition of such patients make, we are told, a most unfavorable contrast with the fresh and vigorous appearance and actions of those who have had the sleep.

The Technique.—The Freiburg doctors, under the lead of Gauss have worked out the many details of what they consider the proper method to follow in securing Twilight Sleep. All these steps are collectively known as the **technique.** These physicians speak from an experience of several thousand cases, carefully observed and a study of all details. They insist that nearly all the adverse reports made by hospital investigators in the early stages of this study, were the result of not following the technique as they had worked it out.

Difficulties.—This technique is rendered difficult by reason of the varying susceptibility of different people, and because of the necessity of continually testing the patient's state of consciousness, which must be maintained on the narrow zone just between wakefulness and unconsciousness. To overstep that zone is to endanger the child; to fall short of it is to largely deprive the mother of the benefits sought. The principal test is that of memory. Some common object in the room is shown the patient, and after an interval, the same object is again shown her and she is asked if she ever saw it before. Her answer determines whether or not the "twilight" state is maintained. But this test must be made naturally and cautiously, and with new objects each time, or else the effort to remember will itself awaken the patient.

Repeated Doses.—The results of such tests frequently show that further injections of scopolamine are necessary. But as different individuals are affected differently, some need twice as many doses as others. All this requires the constant care of a competent physician. Freiburg further insists that the injections should not begin too early, or be put off too late, and ability to determine the right time is only gained by experience. The sleep, they point out, should be slow and gradually induced by small doses. Furthermore, as the sleep is so light, they protect the patient from noise and light, which tend to arouse her. The lights in the room are turned down, the ears are stuffed with cotton and quiet enjoined.

Early Results.—It is not singular that some of the early experimentors did not carefully follow these details. When the first reports of this new process came from Freiburg, the big hospitals in Germany, England, France and America all experimented with it. The results in many cases were disappointing, but Freiburg insists that it was because its technique was not followed. In some instances it is pointed out they gave too large doses, in others they repeated the morphine, while Freiburg only gave it once and then in a very small amount. In other cases they overstepped the true "twilight" zone and produced complete narcosis. They sometimes used hyocine instead of scopolamine, which even if chemically the same, does not act the same. Then again Freiburg insists that they were not sufficiently careful to test the preparation they used to see whether or not it had decomposed, which, of course, frequently led to bad results. We have seen that preparations of scopolamine decompose very easily.

Opposition.—Failure to follow its technique was the reply Freiburg had to make to adverse reports backed up by its own records of thousands of successful cases. But whatever the reasons, the results were disappointing in the hospital experiences of both Europe and America. The University of Berlin was very unfavorable to it. Dresden opposed it. Other large city hospitals were indifferent, following the lead of Berlin. Whether true or not, it is openly charged that jealously had something to do with the Berlin opposition. Freiburg is small, Berlin is large. Some of the German doctors said if Berlin had only originated the treatment, all Germany would have embraced it with enthusiasm. However that may be, it was not difficult for Gauss to show that Berlin did not at all closely follow the Freiburg technique.

Results in America.—The same result followed in America. Boston, Harvard, The University of Pennsylvania, Johns Hopkins, Northwestern University were all either unfavorable or indifferent. Freiburg alone of all the great schools continued on its way with unabated success. It now appears, however, that underneath the surface, a great many physicians in Germany and in this country were quietly investigating the new method and it seemed to be growing in favor, though nothing was heard of it. In a general way, Berlin had dismissed the subject, saying that "time would tell." What the verdict would have been if left solely to time, the profession and medical conservatism is difficult to determine. It seems only justice to conclude that if it be what its warm adherents assert, that it would have grown in favor and ended by being generally adopted. But as opposed to this is the simple fact that a method of assuaging the pain of delivery has been known for two generations, but owing to different reasons, the old notion that some way pain in delivery was a physiological good, which nature intended to accompany childbirth, the conservation of the profession and the backward state of obstetric science in general, such method was comparatively little used.

Present Movement.—Long ago, Sir James Simpson, disappointed at the reception given his method of assuaging the pains of childbirth, declared that "women themselves will rebel against enduring the usual torture and misery of childbirth." He meant that women, being the ones to endure the suffering, would so strongly insist on the profession affording them relief, that physicians would have to perfect either his method or some other in answer to their demands, or convince them that no method of relief was possible. Apparently that prophecy was fulfilled the summer of 1914, when women busied themselves in dragging from obscurity the results achieved at Freiburg and acquainting their sex with the possibilities of twilight sleep as worked out at that place.

Interest Aroused.—Their efforts produced such a furor, so to speak, among the women of America, that the medical profession, in self-defense was compelled to re-open what to many of its members was a closed question, and in general such great interest was aroused that physicians by the score hurried to Freiburg to learn at first hand its technique, and many hospitals, not only in Germany, but in this country as well, concluded to resume experiments and this time faithfully follow the minute details of the Freiburg technique. It is said that "this was the first time in the history of medical science that the whole body of patients dictated to the doctors."

Contrast.—By one of the strange ironies of fate, sometimes observed in history, this was just at the time the European war was breaking out, which, of course, suspended all further investigation in Europe. But observe that just as all the resources of science were suddenly brought forward to destroy human life, determined efforts were making to render the begining of life on the physical plane comparatively free from pain, and thereby conserve the health of mothers and children and thus save life.

Making it Known.—The results of this sudden publicity and aroused interest was very marked. Associations were formed to further the use of twilight sleep, courses of lectures were given by women, who spoke from experience and personal investigation, magazines and papers found it a subject of such general interest that they devoted columns to telling about it. The result was that women from Maine to California learned that there was a method claimed to abolish much of the pain of labor, and that it was not necessary to journey to Europe to test the matter as many hospitals in America had equipped themselves to give the treatment.

Attitude of the Profession.—Then the medical profession began to be heard from. Their attitude speedily swung from open hostility and adverse criticism to friendly interest and in some cases enthusiastic approval. It was discovered that in a quiet way, many physicians had been making use of this treatment in their general practice, at least they so claimed, and a number of hospitals asserted they had been employing it for years. In short, it almost seems as if 1914 was simply the psychological time when subdued but general interest in this method suddenly focused and attracted general attention.

Origin of Present Interest.—In various ways, knowledge of the Freiburg method had reached distant localities, and patients were coming from South Africa on the one hand and from California on the other. In 1913 Drs. Kronig and Gauss were in America and lectured before numerous medical societies. Their talks were mildly applauded but there interest ceased. Then it was that two ladies, Miss Marguerite Tracy and Mrs. Mary Boyd, went to Freiburg to study at first hand the Freiburg method. Mrs. Boyd being an expectant mother was to take the sleep herself. They innocently supposed that the Freiburg doctors would be glad to furnish them with the needed data, which, combined with personal experience, would enable them to write interesting articles, which would serve to acquaint American mothers with this method.

Difficulties Met.—But medical etiquette is something very hard for the average layman to understand. Instead of help and encouragement, they found themselves opposed by the Freiburg physicians, because it was a contravention of medical etiquette to furnish laymen with such information. "But," says Mrs. Boyd, "if the lips of the doctors were sealed, the lips of their colleagues in the university were not, nor of their colleagues' wives, nor of the other women of Freiburg. The pages of medical journals were also opened and in them were found a buried literature of scopolamine-morphine in obstetrics. What we found in those pages so aroused us that we determined, in spite of opposition, even of coolness, to exploit the Dammerschlaf (twilight sleep) in order to save it, for we saw that this blessing for women bade fair to die out with the doctors now administering it."

Medical Criticism.—The results of their investigations appeared in magazine articles, which served exactly the purpose the ladies had in mind. The great public interest of which we have just made mention speedily followed. But this method of exploitation shocked the profession and the two ladies found themselves styled adventuresses, quacks and frauds generally. The mildest criticism was the complaint in some journals that these articles were furnished by two young ladies, neither one of whom was a physician, nor possessed of any knowledge of obstetrics. As a matter of fact, the ladies by diligent research had gained a knowledge of obstetrics surpassing that of many of the learned men who criticised them, and one by personal experience knew what no amount of research can ever give a male physician.

Willing to Investigate.—It is only fair to state that the ladies themselves bear testimony to the fact that when the first surprise at their audacity wore off, they found the profession broad-minded enough to fairly consider the matter, and willing to investigate further. Crowds of doctors hurried to Freiburg to see for themselves. Hospitals made preparations to re-open their investigations and expressed a willingness to adopt whatever proved to be good. In fact the profession has apparently come to the conclusions of an eminent New York authority: "We as physicians do not like to admit it, but it is a fact that women through a lay magazine have reminded—and forcibly so—the profession in America as to its duty." (McDuffey.)

Present Opinions.—It must not be understood that twilight sleep, as produced at Freiburg, has triumphed over all opposition and has now clear sailing. In fact, it still remains true as Gauss formerly stated, his method "is enthusiastically welcomed by some, but opposed and rejected with equal energy by others." Probably a fair statement of the case is that the attitude of the profession is, as a result of further investigation, now friendly towards this method. This is shown by the change in tone of articles and reports in the journal regarding it. It is shown by the arrangements hospitals are now making to give it, following in general terms the technique of Freiburg. The obstetricians in charge of two prominent hospitals in New York, the Gouverneur and Long Island College Hospitals, both of whom tried and rejected the treatment in earlier years, but who were among those who journeyed to Freiburg in 1914, in response to the interest occasioned by the articles in question, returning, adopted the method in their hospitals and are now earnest advocates of the same. Indeed, Dr. Knipe of Gouverneur Hospital in his last report says that if their good results continue it will be difficult for them not to be as enthusiastic as Gauss himself.

Difficulties Acknowledged.—However, there is a consensus of opinion that the approved technique is so difficult to follow in all its details, demanding as it does the personal presence of a trained physician and close study of the peculiarities of each patient, that it is not adapted to general practice, but remains essentially a hospital case. This involves the necessity of a journey to some city where hospitals are equipped for this service. This will deprive a great many women in rural sections of its benefits. Of course, constant efforts are making to remedy this state of affairs by discovering some method of modifying the intricate technique at present necessary. It should be stated that the physicians in charge of the great Jewish Maternity Hospital in New York report that they see no reason "why it can not be accomplished in all well-regulated private homes."

Siegel's Schema.—What is known as the Siegel Schema is an attempt to standardize the technique. Give so much, at such intervals of time, to all patients. Could such a standard be worked out, it would greatly simplify the method and at once make it generally available. But it is evident from what we have learned as to the varying reaction of individual patients to scopolamin that such a proceeding is to imperil the successful application of this form of twilight sleep. It is to repeat the mistakes of earlier experiments and bring the whole method into disrepute.

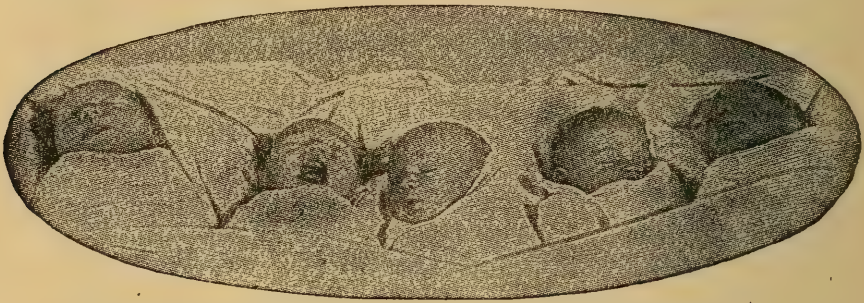
Statistics of Cases.—We are now able to present comparative results drawn from a careful study and analysis of 2,000 cases, which are illuminating. While doctors in perfect sincerity and undoubted good faith may disagree as to the value of the twilight sleep method, and while the difficulties of administering it in general practice are freely admitted, yet actual results that have occurred in the practice of different obstetricians, each case exhaustively studied, are worthy of careful consideration; and conclusions drawn from such a comparison afford needed data as to probable future results. At the present day, theories are subservient to facts.

Cases Studied.—For the purpose of this study, an investigation was made of the records of 1,000 birth cases born under twilight sleep conditions and an equal number born under former methods of delivery. Each case was carefully read, each history taken up separately, and in order to make the study as unbiased as possible, all cases in which twilight sleep would not have been given, for various reasons, were eliminated. Further, in order to get as wide a basis for comparison as possible, the 1,000 twilight sleep cases represent the work of twenty-five different observers, and more important still, these were the first cases of physicians practicing the new method. With the experience thus gained, their second thousand cases will undoubtedly show still better results. Seventy per cent. of the twilight cases were first births. This shows that practitioners throughout the country are using this method mainly with first birth cases, always the most difficult to handle.

Results.—The data as compiled show that every advantage claimed for twilight sleep on preceding pages is well founded.

In 94.4 per cent. of the twilight sleep cases there was practically no pain. This in itself is a great boon, for as we have seen excessive pain is attended with a formidable train of potential evils. These cases show that it can be eliminated. The benefits claimed to follow such elimination were also found to be facts; especially was this noticeable in quick recovery, as the mothers do not undergo the so-called shock of confinement.

Forceps Delivery.—There were less than half the number of forceps deliveries of the high and medium operations. These are the cases that result in the greatest injuries, such as severe cervical and vaginal lacerations, to the pathetic accompaniment of dead and mutilated babies. These are the operations that cause chronic invalidism in women and furnish the physicians of womb diseases work in after years.



TWILIGHT SLEEP BABIES AT A NEW YORK CITY HOSPITAL.

Effects on the Mothers.—There was one death in the natural confinement cases, none in the twilight series. Without twilight, there was one case of severe melancholia which developed on the sixth day after birth; in the twilight cases there was one instance of depressive melancholia without ill effects. Of after birth hemorrhages there were seventeen cases in the natural series, and but eight in the twilight. Lacerations showed 46.9 per cent. under normal conditions of childbirth, but only 14.2 per cent. with twilight treatment. Of the thousand natural cases, forty-nine mothers had to leave the hospitals without their babies (they having died), while there were only thirty-nine such afflicted mothers in the twilight series.

Effects on the Babies.—The "spontaneous cry" was about the same in both series, but there were more cases of delayed breathing in the twilight sleep series. The number of asphyxiated babies were the same in both cases. There were twenty-five still-births in the natural confinement cases, but nineteen in the twilight series. Twenty-four babies died in the first fifteen days after birth in the natural series; twenty died in the same time of the twilight babies. Sixty-four per cent. of the twilight babies gained their birth weight at the eleventh day, while but 47 per cent. of the non-twilight babies got to their birth weight in that length of time. These last figures show conclusively that twilight mothers are in better physical condition after delivery and so better able to nurse their babies.

Summing Up.—It is difficult to resist the conclusions that can be legitimately drawn from these statistics. The mothers after twilight labor are in better condition because of the elimination of pain, and less number of difficult forceps operations, less lacerations of the cervix and perineum, better milk secretions, less nerve exhaustion and they recuperate much faster than by former methods. It also appears that under the general administration of this sleep, we would have more and healthier babies and more healthy mothers. Consequently we conclude that twilight sleep is not a passing fad but is a practical means of race betterment; consequently this method will be developed and improved, yielding its place only as some better method of accomplishing the blessing of practically painless birth shall be discovered.

The Vital Point.—We are in danger of losing sight of the vital point in this discussion. The purpose is to establish the rights of mothers to a virtually painless birth process. It is to emphasize the fact that the medical profession as a whole has not sufficiently attended to its duties in thoroughly studying and providing such methods in obstetric practice. This is openly admitted by leaders in the profession itself. Such innovations as we have here discussed demand investigation and what is of value should be accepted. The particular process thus far considered may be modified or dropped for other methods but the possibility of the fact will no longer be lost sight of. Already modifications are suggested by eminent investigators which are claimed as great improvements in one or more respects. Morphine has been abandoned, as a preliminary narcotic, in favor of narcophin. A prominent New York physician thinks the addition of doses of a preparation of spartein a great help. He thinks the treatment thus modified can be given in any home by a competent physician who uses care, thereby obviating the necessity of hospital service.

American Twilight Sleep.—The obstetricians in charge of the Cumberland Street Hospital, Brooklyn, where material for experiment is abundant, freely give the scopolamin-narcophin sleep, but alongside of it they have developed what they call the American twilight sleep, which, in some respects, they think a better method. All normal cases presented for treatment in their hospital receive one or the other form of twilight sleep. The recent method consists in the administration of nitrous oxide (laughing gas) and oxygen. The use of nitrous oxide, as every one knows, has long been the practice in other lines of medicine and dentistry. It was first used in confinement cases in this hospital in 1914, but it seems that a year previously it had been experimented with in Indianapolis.

The Technique.—The gas, about 95 per cent. strong at first, is given by the nasal inhaler, continued till the pupils begin to dilate from the normal. It is not desired to carry the patient beyond the stage of insensibility to pain. When her conversation becomes rather thick tongued and slow, she is in the desired stage. As in the first form of sleep, patients vary in their susceptibility. It is necessary to administer from 65 to 85 per cent. of oxide (from 35 to 15 per cent. of oxygen) to hold the patient in the analgesic stage.

Advantages Claimed for this Method.—A much simpler technique to start with. The patient is not unconscious. The physician is able to carry on a conversation with her and thus allay any fears she may entertain. She lies quiet, follows instruction and diminution of light is not necessary. If she does not understand her condition, she does not fear, for she can talk and make her wants known. The secondary stage of labor, instead of being lengthened as in the scopolamin sleep, is shortened or remains normal for the patient is able to use voluntary efforts, which at best are minimized in the scopolamin sleep. The patient is brought to the normal period within ten seconds after the gas is administered, her respiration and pulse are not above the normal, and the foetal heart is not increased at any time. This method apparently needs only the development of a portable apparatus for administering the gas to be rendered available in general practice.

Combination of these Methods.—We are told that in a number of hospitals experiments have been made with a combination of these two methods. The scopolamin-narcophin treatment being given in the first stage of labor, and the gas treatment given in the later stage. The physician of the Long Island College Hospital asserts that such a combination produces almost ideal results.

Obstetrics of the Future.—It is generally conceded that the birth rate in the more advanced nations is steadily falling. One explanation is to be found in the almost subconscious, though very general, fear of childbirth suffering and dangers. Only physicians and alienists understand how real that brooding fear is, and what dire results frequently follow therefrom.

It tends to bring on a morbid state of mind that conduces to the madness and delirium that sometimes follow childbirth. And this same fear held in mind for months preceding birth, in many ways, influences the future life of the child, and that most unwholesomely. It threatens the happiness of domestic life, which so largely depends on the health of the mother. In fact, the train of attendant evils from this source is as formidable as that from excessive pain.

The Aim of the Profession.—The problem ahead of the medical profession is to find a remedy for this state of affairs. We have seen that whatever assuages the pain has a most beneficent effect on the health of the mother, but, what is of equal importance, it lifts the burden of fear from her mind. Many feel that this problem is something far more than the abolishing of pain. It is rightfully regarded as one of the most important problems of modern times. Rightfully solved, it means more children (increasing birth rate) and healthier children, stronger, more contented and happier mothers. All of which means that the world itself will be better. This is the goal to achieve which medical science will now put forth its best energies. Obstetrics will become a more important branch of medical science, because it will be concerned in giving relief to that half of humanity that has to meet the sufferings and dangers of childbirth.

Conclusion.—One great importance of the present method is that it has served to rouse the profession to a new duty. It seems to be a great step in advance. It is by no means free from difficulties, but medical science will not take a back step in this matter. If civilization has evolved a race of women poorly equipped to stand the physical storm and psychical stress of childbirth—science is hastening to afford them relief. The future has in store for womankind painless childbirth, on a scale commensurate with painless surgery in general. In the beneficent results flowing from this happy consummation the race itself will be blessed.

CHAPTER XXXI

PRESCRIPTIONS

LIST A

In ordering the following mixtures, etc., the prescriptions should be copied out word for word and the amount required (6, 8 or 12 doses) should be added. Two tablespoonfuls equal one ounce. (See "Measures," page 464.)

The term "*to an ounce*" means that all the ingredients amount to one ounce or two tablespoonfuls.

Each of the following prescriptions in list A is one dose unless otherwise stated.

Caution.—*Inhalation* means to breathe in; *lotion* means to bathe—neither to be taken internally. The doses are in nearly every instance full or adult dosage, except those for children's diseases or where otherwise stated. See Nos. 2, 3, 4, List B.

SLEEPING DRAUGHTS.

No. 1.

Bromide of Potash, 20 grains.
Syrup of Orange, ½ drachm.
Water to an ounce.

Two or three tablespoonfuls to be taken at bed-time.

No. 2.

Hydrate of Chloral, 10 grains.
Bromide of Potash, 15 grains.
Syrup of Orange, ½ drachm.
Water to an ounce.

Two tablespoonfuls to be taken at bed-time.

No. 3.

Bromidia, 1 drachm.
Syrup of Orange, ½ drachm.
Water to an ounce.

Two tablespoonfuls to be taken at bed-time.

TONIC MIXTURES.

No. 4.

Laxative Iron Mixture.

Citrate of Iron and Ammonia, 8 grains.
Liquid Extract of Cascara, 10 drops.
Carbonate of Ammonia, 3 grains.
Spirits of Chloroform, 20 drops.
Water to an ounce.

Two tablespoonfuls to be taken three times a day.

No. 5.

Bark and Ammonia Mixture.

Compound Tincture of Bark, ½ drachm.
Carbonate of Ammonia, 5 grains.
Syrup, ½ drachm.
Water to an ounce.

Two tablespoonfuls to be taken three times a day, before food.

No. 6.

Quinine and Iron Mixture.

Sulphate of Quinine, 1 grain.
Tincture of Perchloride of Iron, 10 drops.
Spirits of Chloroform, 15 drops.
Water to an ounce.

Two tablespoonfuls to be taken three times a day.

No. 7.

Quinine Mixture.

Sulphate of Quinine, 2 grains.
Dilute Sulphuric Acid, 10 drops.
Syrup of Orange, ½ drachm.
Water to an ounce.

Two tablespoonfuls to be taken three times a day.

No. 8.

Bark and Acid Mixture.

Compound Tincture of Bark, ½ drachm.
Dilute Nitro-Hydrochloric Acid, 10 drops.
Syrup of Orange, ½ drachm.
Water to an ounce.

Two tablespoonfuls to be taken three times a day.

No. 9.

Gentian and Acid Mixture.

Dilute Hydrochloric Acid, 10 drops.
Dilute Hydrocyanic Acid, 2½ drops.
Compound Tincture of Gentian, 30 drops.
Spirits of Chloroform, 10 drops.
Peppermint Water to an ounce.

Two tablespoonfuls to be taken three times a day.

No. 10.

Heart Tonic.

Tincture of Digitalis, 5 drops.
Tincture of Perchloride of Iron, 10 drops.
Syrup, ½ drachm.
Chloroform Water to one ounce.

Two tablespoonfuls to be taken three times a day.

No. 11.

Gout Mixture.

Colchicum Wine, 10 drops.
Iodide of Potash, 3 grains.
Spirits of Chloroform, 20 drops.
Infusion of Senega to an ounce.

Two tablespoonfuls to be taken two or three times a day.

No. 12.

Sedative.

Paregoric Elixir, 20 drops.
Oxymel of Squills, 20 drops.
Sweet Spirits of Nitre, 20 drops.
Water to an ounce.

Two tablespoonfuls to be taken every four hours.

No. 13.

Sedative.

Solution of Hydrochlorate of Morphia, 5 drops.
Chloroform, 8 drops.
Rectified Spirits, 72 drops.
Glycerine to an ounce.

One teaspoonful to be taken every four hours in half a wineglassful of water.

No. 14.

Stimulant.

Carbonate of Ammonia, 5 grains.
Tincture of Senega, 40 drops.
Syrup of Squills, ½ drachm.
Syrup of Tolu, 1 drachm.
Water to an ounce

Two tablespoonfuls to be taken every three or four hours.

No. 15.

Stimulant.

Antimonial Wine, 5 drops.
Carbonate Ammonia, 5 grains.
Syrup, ½ drachm.
Tincture of Lemon, 20 drops.
Water to an ounce.

Two tablespoonfuls to be taken every three hours with a powder of Citric Acid, 10 grains.

No. 16.

Expectorant.

Ipecacuanha Wine, 5 drops.
Solution of Acetate of Ammonia, 1 drachm.
Sweet Spirits of Nitre, 30 drops.
Camphor Water to an ounce.

Two tablespoonfuls to be taken every three hours.

No. 17.

Expectorant.

Carbonate of Ammonia, 5 grains.
Syrup of Squills, ½ drachm.
Spirits of Chloroform, 20 drops.
Infusion of Cascarilla to an ounce.

Two tablespoonfuls to be taken three or four times a day.

No. 18.

Acid Mixture.

Dilute Hydrochloric Acid, 10 drops.
Tincture of Orange Peel, 20 drops.
Spirits of Chloroform, 10 drops.
Water to an ounce.

Two tablespoonfuls to be taken three times a day.

No. 19.

Effervescing Alkaline Mixture.

Bicarbonate of Potash, 20 grains.
Tincture of Nux Vomica, 10 drops.
Tincture of Lemon, 20 drops.
Water to an ounce.

Mix and label No. 1.

Citric Acid, 14 grains.
Syrup, ½ drachm.
Water to an ounce.

Mix and label No. 2.

Two tablespoonfuls of each to be mixed and taken while effervescence is acting, three times a day.

No. 20.

Bismuth Mixture.

Carbonate of Bismuth, 5 grains.
Carbonate of Magnesia, 10 grains.
Mucilage of Gum, 1 drachm.
Peppermint Water to an ounce.

Two tablespoonfuls to be taken three times a day, before food. Shake well.

No. 21.

Chalk Mixture.

Aromatic Powder of Chalk, 30 grains.
Cassia Water to an ounce.

Two tablespoonfuls to be taken every three or four hours as required.

No. 22.

Gentian and Soda Mixture.

Bicarbonate of Soda, 15 grains.
Dilute Hydrocyanic Acid, 2 drops.
Compound Tincture of Gentian, 30 drops.
Spirits of Chloroform, 10 drops.
Peppermint Water to an ounce.

Two tablespoonfuls to be taken three times a day.

No. 23.

Saline Aperient Draught.

Epsom Salts, 1 drachm.
Carbonate of Magnesia, 10 grains.
Peppermint Water to an ounce.

Mix. Dose, two tablespoonfuls.

No. 24.

Fever Mixture.

Solution of Acetate of Ammonia, 1 drachm.
Sweet Spirits of Nitre, 30 drops.
Salicylate of Soda, 7 grains.
Camphor Water to an ounce.

Two tablespoonfuls to be taken every three or four hours.

Cooling Lotions.

No. 25.

Lead Lotion.

Solution of Subacetate of Lead, 6 drops.
Spirits of Wine, 6 drops.
Water to an ounce.

No. 26.

Silver Lotion.

Nitrate of Silver, 2 grains.
Sweet Spirits of Nitre, ½ drachm.
Water to an ounce.

No. 27.

Arnica Lotion.

Tincture of Arnica, 1 drachm.
Solution of Subacetate of Lead, 6 drops.
Water to an ounce.

No. 28.

Hazeline Lotion.

Hazeline, 1 drachm.
Water to an ounce.

Inhalations.

No. 29.

Pine Oil Inhalation.

Oil of Scotch Pine, 40 drops.
Light Carbonate of Magnesia, 20 grains.
Water to an ounce.

Mix. A teaspoonful to be added to a pint of hot water for each inhalation.

No. 30.

Terebine Inhalation.

Pure Terebine, 40 drops.
Light Carbonate of Magnesia, 20 grains.
Water to an ounce.

Mix. One teaspoonful to be added to a pint of hot water for each inhalation.

No. 31.

Creosote Inhalation.

Creosote, 80 drops.
Light Carbonate of Magnesia, 30 grains.
Water to an ounce.

Mix. One teaspoonful to be added to a pint of hot water for each inhalation.

No. 32.

Sedative Gargle.

Boracic Acid, 15 grains.
Chlorate of Potash, 10 grains.
Water to an ounce.

To be mixed with an equal quantity of warm water.

Lotions for Wounds, Etc.

No. 33.

Red Wash.

Sulphate of Zinc, 2 grains.
Compound Tincture of Lavender, 15 drops.
Water to an ounce.

No. 34.

Boracic Acid Lotion.

Boracic Acid, 15 grains.
Water to an ounce.

No. 35.

Lead and Opium Lotion.

Laudanum, 15 drops.
Solution of Subacetate of Lead, 6 drops.
Water to an ounce.

No. 36.

Carbolic Acid Lotion.

Carbolic Acid Liquefied, 5 or 12 drops.
Water to an ounce.

The weaker makes a lotion of 1 in 100; the stronger, 1 in 40.

LIST OF TABLOIDS

T. No. 1. Antipyrin, 2½ and 5 grains.
" 2. Apomorphia, 1/12 grain.
" 3. Aromatic Chalk and Opium Powder, 5 grains.
" 4. Bicarbonate of Soda, 5 grains.
" 5. Bismuth, 5 and 10 grains.
" 6. Bromide of Ammonium, 5 and 10 grains.
" 7. Bromide of Potash, 5 and 10 grains.
" 8. Calomel, ½ and 1 grain.
" 9. Cascara, 2 grains.
" 10. Chloral, 5 and 10 grains.
" 11. Chlorate of Potash and Borax.
" 12. Chlorate of Potash, Borax and Cocaine.
" 13. Citrate of Caffeine, 2 grains.
" 14. Cocaine, 1 grain.
" 15. Dover's Powder, ¼ and 5 grains.
" 16. Ergotin, 3 grains.
" 17. Gregory's Powder.
" 18. Gray Powder, ⅓, ½ and 1 grain.
" 19. Iodide of Potash, 5 grains.
" 20. Laudanum, 2, 5 and 10 drops.
" 21. Morphia, 1/20 and ⅛ grain.
" 22. Paregoric Elixir, 5 and 10 drops.
" 23. Permanganate of Potash, 2 grains.
" 24. Phenacetin, 5 grains.
" 25. Reduced Iron. 2 grains.
" 26. Rhubarb and Soda.
" 27. Saccharin, ½ grain.
" 28. Salicin, 5 grains.
" 29. Salicylate of Soda, 3 and 5 grains.
" 30. Soda Mint.

T. No. 31. Sulphate of Zinc, 1 and 10 grains.
" 32. Sulphonal, 5 grains.
" 33. Tincture of Aconite, 1 and 5 drops.
" 34. Tincture of Belladonna, 1, 5 and 15 drops.
" 35. Tincture of Digitalis, 1 and 5 drops.
" 36. Tincture of Nux Vomica, 1, 3 and 10 drops.

PRESCRIPTIONS, LIST B

Copy word for word and have filled as here given, as the prescription is full in amounts required.

No. 1.

Cough Remedy.

Muriate Ammon., 2 drachms.
Sulph. Morphia, 2 grains.
Carbolic Acid (Cryst), 6 grains.
Glycerine, ½ ounce.
Syrup Licorice, q. s. 4 ounces.

Dose: Teaspoonful four times a day. This cough medicine is intended for adults and should not be taken in overdoses. The No. 2 or cough medicine below is for children or grown-up persons.

No. 2.

Cough Remedy.

Syrup Squills, 2 ounces.
Paregoric, 2 ounces.
Syrup Ipecac, ½ ounce.
Syrup Tolu, ½ ounce.
Tincture Bloodroot, 1 ounce.

Dose: One-half teaspoonful four times a day for adults; children in proportion.

No. 3.

Croup Remedy.

Powdered Alum, 2½ ounces.
White Honey, 10 drachms.

Dose: Give one-half teaspoonful every hour, and powdered alum blown in the throat every four hours.

No. 4.

Whooping Cough Remedy.

Hive Syrup, 1 ounce.
Syrup Tolu, 1 ounce.
Tincture Bloodroot, ½ ounce.
Tincture Lobelia, 1½ ounces.

Dose: One-half teaspoonful three times a day for a child two years old; also give chlorate potass three or four times a day.

No. 5.

Bronchial Affections Gargle.

Aqua Pura, 4 ounces.
Syrup Simplex, 1 ounce.
Fluid Extract Witchhazel, 1 ounce.
Tincture Guaiac, 4 drachms.

Mix. Gargle the throat three times a day.

No. 6.

For Chronic Bronchitis.

Tincture Nux Vomica, 1 drachm.
Tincture Bloodroot, 1 drachm.
Kennedy's Extract Pinus Can. (dark), 4 drachms.
Simple Syrup, q. s. for four ounces.

Dose: One teaspoonful every four hours.

No. 7.

Sore Throat Gargle.

Chloride Sodii, 15 grains.
Tincture Iodine, 3 drops.
Aqua, 1 ounce.

Mix. Gargle four or five times a day. This is excellent for ordinary sore throat.

No. 8.

Blood Purifier.

Fluid Extract Stillingia, 1 ounce.
Fluid Extract Sarsaparilla, 2 ounces.
Fluid Extract Red Clover, 2 ounces.
Fluid Extract Yellow Dock, 1 ounce.
Iodide Potass, 2 drachms.
Syrup Simplex, 10 ounces.

Dose: One-half tablespoonful three times a day.

No. 9.

Catarrh Remedy.

Potass Chloras, 4 drachms.
Potass Carbonas, 10 grains.

Put into one quart boiling rain water, let it stand till cold; use by snuffing and as a gargle several times a day. Also use the blood purifier in connection with it.

No. 10.

Tonsilitis Gargle.

Tincture Guaiac Ammoniat, 4 drachms.
Tincture Cinchona Comp., 4 drachms.
Potasii Chlorat, 2 drachms.
Pulverized Acacia, q. s.
Water, q. s. ad. 4 drachms.

Mix. Use as a gargle, and take a teaspoonful every two hours.

No. 11.

Canker or Sore Mouth Cure.

Borax, 1 ounce.
Rose-water, 4 ounces.
Honey, 4 ounces.

Mix. Use as a wash three or four times a day.

No. 12.

Headache Powders.

Also for Neuralgia, Rheumatism and all pains.

Antifebrin (genuine), 1 ounce.
Soda Bicarb., 3 drachms.
Caffeine Citrate, 1 drachm.
Soda Salicylate, 1 drachm.

Mix well and divide into 100 powders.

Dose: Place a powder on your tongue and take a swallow of water to rinse down; if not easy in fifteen minutes, take another one.

No. 13.

Toothache Drops.

Oil Cloves, ½ ounce.
Carbolic Acid, 2 drachms.
Tincture Opium, 6 drachms.
Sul. Ether, ½ ounce.
Alcohol, q. s. 4 ounces.

Mix. Saturate a piece of cotton well and press well down on the nerve in the hollow of your tooth; repeat if not easy in a few minutes. Do not get any on your lips or mouth, as it may blister.

No. 14.

For Quinsy.

Tannin, 15 grains.
Tincture Iodine, 3 drops.
Carbolic Acid, ½ drachm.
Glycerine, 5 drachms.
Water, 2½ ounces.

Mix. Apply with a brush three times a day.

No. 15.

Chloroform Liniment.

Chloroform, 1 ounce.
Tincture Arnica, 2 ounces.
Olive Oil, 1 ounce.
Aqua Ammonia (4f), 1 ounce.
Tincture Opium, 1 ounce.

Mix. The olive oil and ammonia should be mixed first and well cut before putting in the other articles. This is a good liniment for all purposes. Should be well rubbed in. For outward use only.

No. 16.

Diarrhea Remedy.

Tincture Rhubarb, 1 ounce.
Tincture Jamaica Ginger, ½ ounce.
Tincture Catechu, ½ ounce.
Lime-water, 1 ounce.
Paregoric, 1 ounce.

Dose: One teaspoonful every time the bowels move. Children in proportion.

No. 17.

Tonic.

Syrup Hypophos.
Tincture Gentian Comp.
Spirits Frumenti.
Aqua Destill, a a 2 ounces.

Dose: Teaspoonful to a tablespoonful four times a day. This is a good tonic for debility or lack of vitality in women or men.

No. 18.

Tonic for Malaria or Fever and Ague.

Sulph. Quinine, 50 grains.
Tincture Muriate Iron, 6 drachms.
Tincture Capsicum, 4 drachms.
Tincture Gentian, 2 ounces.

Dose: Teaspoonful four times a day in water. This is very good for malaria, fever and ague and as a general tonic.

No. 19.

Rheumatic Liniment.

Aqua Ammonia (4f), 11½ ounces.
Muriate Ammonia, 2 ounces.
Alcohol, 1 quart.
Camphor Gum, 2 ounces.
Laudanum, 6 ounces.
Oil Origanum, 2 ounces.

Mix. This is a fine liniment for all purposes for man or beast. Dissolve the muriate ammonia in the aqua ammonia and then add the rest.

No. 20.

Rheumatic Remedy.

Iodi. Potass, 4 drachms.
Bromide Potass, 4 drachms.
Tincture Colchicum Seeds, 8 drachms.
Tincture Black Cohosh, 2 ounces.
Syrup Orange Peel, 2 ounces.
Aqua Destill, q. s. 8 ounces.

Dose: One teaspoonful three or four times a day. Also use the above liniment to rub on, and keep bowels open with some good pill or tea.

No. 21.

Asthma Cure.

Stramonium Leaves, 2 ounces.
Digitalis Leaves, 1 ounce.
Henbane Leaves, 1 ounce.
Saltpetre, Pure, ¾ ounce.

Rub the leaves together, dissolve the saltpetre, saturate the leaves with the solution of saltpetre. If not enough saltpetre, it will not burn; if too much, it will burn too rapidly. A tablespoonful should be ignited and the fumes inhaled. Bowels should be kept open.

No. 22.

Gonorrhea Cure.

Balsam Copaiba, 2 ounces.
Tincture Muriate Iron, 1 ounce.

Dose: One teaspoonful three times a day. This with outdoor exercise, avoiding whisky, women and highly-seasoned food will effect a cure. All sexual intercourse must be stopped and the bowels kept open.

No. 23.

Gonorrhea Injection.

Lloyd's Hydrastis, ½ ounce.
Kennedy's White Pine Canadensis, ½ ounce.
Aqua Destill, 7 ounces.

Mix. Get a small syringe and inject one-half ounce two or three times a day.

No. 24.

Tonic Bitters.

Gentian Root.
Quassia Chips.
Sassafras Bark.
Roman Chamomile, a a 1 ounce.
Powdered Cloves.
Saffron.
Powdered Soc Aloes.
Orange Peel.
Cinnamon Bark.
Canella Bark, a a ¼ ounce.

Mix. Steep the bitters thirty minutes in one quart of hot water in a covered dish, strain through cloth, then add one pint gin and one pound white sugar. Dose: Wineglassful before each meal. Very good for kidneys, liver, blood and as a tonic.

No. 25.

Great Hair Tonic.

Carbolic Acid, 95 per cent. pure, 5 drops.
Tincture Cantharides, 1½ ounces.
Bay Rum, 2½ ounces.
Sulphur Water, 4 ounces.

Mix. Shake well before using. Apply well in the scalp and roots of the hair night and morning. This is great for dandruff, to grow hair and prevent its coming out.

No. 26.

Hair Oil or Dressing.

Castor Oil, 4 ounces.
Glycerine, 2 ounces.
Tincture Cantharides, 2 drachms.
Oil Bergamot, 2 drachms.
Alcohol, four ounces.
Alkanet q. s. to color.

Mix. Shake before using and apply as needed. This is merely a hair oil or dressing.

No. 27.

Cheap and Beautiful Hair Dye.

Nitrate Silver, 1 drachm.
Aqua Ammonia, 6 drachms.
Tannic Acid, 10 grains.

Mix the above, and let stand a day or two, then add one ounce rain water; be sure and use rain water. Shake before using. After wetting the hair, wait two or three minutes, then rub dry with a coarse cloth. If the first application is not black enough, apply again or until suited.

No. 28.

Impotence, Sexual Debility, Gleet and Self-Abuse.

Tincture Gelsemii, 1½ drachms.
Tincture Belladonna, 2 drachms.
Brom. Potasii, 4 drachms.
Aqua Destill, q. s. 2 ounces.

Dose: Teaspoonful three times a day. See that bowels are not constipated.

No. 29.

Nervous Debility.

Tincture Nux Vomica, 2 drachms.
Acid Phosphor (dil), 2 drachms.
Brom. Potass., 2 drachms.
Elixir Valerinate Ammonia, 3½ ounces.

Dose: Teaspoonful four times a day.

No. 30.

For Weak Heart.

Spirits Ammon. Arom., 3 drachms.
Tr. Opii Camph., 2 drachms.
Spirits Etheris Comp., 2 drachms.
Spirits Frumenti, q. s. 1 ounce.

Dose: Teaspoonful in a little water, when heart is weak.

No. 31.

To Kill Warts.

Arsenic, 20 grains.
Nitric Acid, 3 drachms.

Mix. Do not cork until done working. Apply with the wrong end of a match or wooden toothpick or any small stick, to the head of the wart twice a day. Be careful and not get it on any other part of the hand, as it will burn you; also keep it out of the reach of children; it is very poisonous.

No. 32.

Pile Ointment.

Powdered Opii, 20 grains.
Sugar Lead, 40 grains.
Hogs' Lard, 1 ounce.

Mix. Anoint the parts two or three times a day and take also the recipe below internally.

No. 33.

Powder for Piles.

Sulphur, 4 ounces.
Cream Tartar (Pure), 2 ounces.
Oil Anise, 10 drops.

Mix well. Dose: Teaspoonful in milk or molasses two or three times a day. If it physics too much, take less; take just enough to keep bowels loose.

No. 34.

Dyspepsia Cure.

Nitromuriatic Acid (Diluted), ½ ounce.
Tincture Nux Vomica, ½ ounce.

Dose: Twenty drops in a wineglassful of cold water before each meal.

No. 35.

Dyspepsia with Debility.

Sub. Nit. Bismuth, 2 drachms.
Bicarb. Soda, 2 drachms.
Sacch. Pepsin, 2 drachms.
Fluid Extract Rhubarb, 2 drachms.
Essence Peppermint, 2 drachms.
Tincture Gentian, 6 ounces.

Dose: One teaspoonful one hour after meals.

No. 36.

Lumbago or Backache Cure.

Tincture Gelsemium, 1 ounce.

Dose: Take ten drops every four hours, until better.

No. 37.

Liver Syrup.

Fluid Extract Bitter Root, 1 ounce.
Fluid Extract Culver's Root, 1 ounce.
Fluid Extract Mandrake, 1 ounce.
Fluid Extract Dandelion, 1 ounce.
Fluid Extract Blue Flag, ¼ ounce.

Dose: Teaspoonful on going to bed. This makes a strong, but a good liver and blood remedy.

No. 38.

Chilblain Cure.

Spirits Turpentine, 1 ounce.
Sulph. Acid, 2 drachms.
Olive Oil, 2½ ounces.

Mix. Apply on affected parts two or three times a day. Be sure and mix sulph. acid and olive oil first and then add spirits turpentine.

No. 39.

Corn Remedy.

Acid Salicylic, 40 grains.
Acid Acetic, 40 grains.
Tincture Cannabis Ind., 2 drachms.
Flexible Collodion, q. s. 1 ounce.

Mix. Apply to the corns for four nights and the fifth night soak feet in hot water, and take corn out with your finger-nail or knife. If it does not all come out, apply again as before.

No. 40.

Gravel Cure.

Sweet Spirits Nitre, 1 ounce.
Tincture Opii, 2 drachms.
Oil Juniper, ½ ounce.

Mix. Dose: Teaspoonful in cupful of linseed tea sweetened with honey, three or four times a day.

No. 41.

Kidney Remedy.

Fluid Extract Buchu, 1 ounce.
Fluid Extract Hair Cap Moss, 2 ounces.
Fluid Extract Uva-ursi, 1 ounce.
Fluid Extract Couchgrass, 8 ounces.
Best Holland Gin, 4 ounces.

Mix. Dose: From a large teaspoonful to a tablespoonful in a little water three or four times a day. This is very good for any kidney trouble.

No. 42.

Constipation Cure.

Pulverized Senna, 4 ounces.
Cream Tartar, 2 ounces.
Sulphur, 2 ounces.
Pulverized Licorice Root, 2 ounces.
Pulverized Fennel Seed, 2 ounces.
Sugar White, 5 ounces.

Mix. Dose: Take from one teaspoonful to one tablespoonful mixed in milk or molasses on going to bed, until bowels are in good order.

No. 43.

Earache Remedy.

Olive Oil, 1 ounce.
Laudanum, 20 drops.

Mix. Shake before using. Put about one-half teaspoonful of above into a teaspoon and warm over lamp or stove, just warm, not too hot, pour into the ear and then put in cotton so it will not run out.

No. 44.

For Burns or Scalds.

Raw Linseed Oil, 4 ounces.
Lime-water, 4 ounces.

Mix. Saturate cotton well and bind on to the burn or scald with above; keep well saturated; shake before using.

No. 45.

Eye Water.

Sulp. Zinc, 2 grains.
Acid Boracic, 5 grains.
Rain Water, 1 ounce.

Make solution. Drop 2 drops into eyes 2 to 4 times a day.

No. 46.

Chafing of Children.

Sub. Nit. Bismuth, 1 drachm.
Pulverized Gum Arabic, 7 drachms.

Mix. Apply dry after washing the parts with castile soap.

No. 47.

To Break Up a Cold.

Tincture Aconite, 1 drachm.
Tincture Belladonna, 2 drachms.

Dose: Five drops every three hours.

No. 48.

Colic in Children.

Oil Terebinth, 1 drachm.
Chloroform, 10 drops.
Soda Bicarb., 10 grains.
Mucilage Acacia, q. s. ad. 3 ounces.

Mix. Give a teaspoonful every two or three hours for a child of six months old.

No. 49.

Worm Remedy.

Spigelia, 1½ ounces.
Senna Leaves, 1 ounce.

Mix. Steep in one pint water thirty minutes, then strain. Tablespoonful three times a day in sugar and water. If it operates too much, give less.

LIST C

No. 1. For Hoarseness and Throat Trouble.

Hoarhound, 1 ounce; wild cherry, 1 ounce; bloodroot, 2 drachms; tincture of capsicum, 1 drachm; pure glycerine, 3 ounces. Dose for adults: One teaspoonful as often as necessary.

No. 2. Cough Mixture.

Boil 1 ounce flaxseed in a pint of water; strain and add ¼ pound honey, 1 ounce rock candy and the juice of 3 lemons. Mix and boil well. Drink as hot as possible. Dose: Wineglassful five or six times daily.

No. 3. Another Cough Mixture.

Hoarhound, ¼ ounce; juniper berries, 10 in number; English pellets, 2 ounces; maple syrup, ½ pint; water, 1 pint. Dose: Tablespoonful night and morning before meals.

No. 4. Cough Syrup.

Boneset, 1 ounce; slippery elm, 1 ounce; licorice root, 1 ounce; flaxseed, 1 ounce; stick licorice, 1 ounce. Simmer in 2 quarts of water. Strain and add ½ pint maple syrup, ½ pound loaf sugar; simmer all together and add ½ wineglassful of bay rum. Dose: One teaspoonful five or six times daily.

No. 5. Cure for Asthma.

Oil of tar, 1 part to 2 parts honey. Dose: One teaspoonful three or four times daily.

No. 6. Recipe for Hypophosphites.

Hypophosphites of lime, ⅛ ounce; soda of hypophosphites, ⅛ ounce; iron, ⅛ ounce; quinine, 10 grains (dissolve in rye whisky); sugar, ½ pound; add water enough to make 3 pints. Dose: One teaspoonful before meals.

No. 7. Burdock Bitters.

Five cents' worth of each, viz.: Burdock, buchu, dandelion, camomile, mandrake, gentian, hops; white sugar, 6 ounces; rye whisky, 1 pint; water, 1 gallon. Soak over night, then boil and strain; add the rye whisky last. Dose: Dessertspoonful three times daily.

No. 8. Celery Bitters.

Aloes, 1 ounce; gentian, 1 ounce; ginger, 1 ounce; bicarbonate of soda, 1 ounce; pulverized licorice, 1 ounce; anise seed, ½ ounce; celery seed, 1 ounce; hot water, 2 quarts; best malt whisky, 1 quart. Strain and, when cool, bottle. Dose: A tablespoonful half an hour after meals.

No. 9. Tonic for Delicate Constitution.

Sulphur, 1 ounce; ground slippery elm, ½ ounce; pulverized charcoal, ½ ounce; cream tartar, ½ ounce; fluid extract of dandelion, 1 ounce; buchu, 1 ounce. Mix all together in a jar with maple syrup to make it as thick as honey. Dose: Teaspoonful every morning before breakfast.

No. 10. For Summer Complaint.

Castor oil, 1 tablespoonful; spirits of camphor, 5 drops; brandy, 1 dessertspoonful. Repeat the dose if necessary.

No. 11. For Diarrhea.

Magnesia, 30 grains; rhubarb, 30 grains; laudanum, 30 grains; essence of peppermint, 1 drachm; water, 8 ounces. Dose: One teaspoonful every half hour until a change takes place.

No. 12. For Diarrhea (Very Simple).

One pound sweet almonds made into a strong tea. Dose: Wineglassful every half hour. If not effectual, grate in a little nutmeg. For old people, especially with weak bowels.

No. 13. The Old "Sun" Cure for Diarrhea.

Equal parts tincture of opium, tincture of red pepper, tincture of peppermint, tincture of rhubarb, tincture of camphor. Dose: Ten to twenty drops in water. First published in the N. Y. "Sun" in 1856, when yellow fever ravaged the country. It never fails to cure.

No. 14. Another for Diarrhea.

One handful of parsley, 1 of horseradish root, 1 ounce nutmegs, ½ ounce squills, 1 gallon of cider boiled down to one-half the quantity. Strain and add 1 ounce of saltpetre, best quality. Dose: One tablespoonful three times daily; children, one-fourth to one-third the quantity.

No. 15. Another for Diarrhea.

Laudanum, 15 drops; spirits of camphor, 15 drops; whisky, 1 ounce; sweeten with sugar. This is one dose for an adult. It is excellent and never known to fail.

No. 16. For Sprains.

One-half dozen eggs boiled hard; take yolks out and fry till all the oil is extracted; then apply the oil to the parts affected three or four times daily.

No. 17. Another for Sprains (Splendid).

White pine pitch, 1½ ounces; yolk of 1 egg; flour, 1½ ounces. Mix and apply as a plaster. Also good for an inflamed or bealed breast.

No. 18. Liniment for Lumbago or Rheumatism.

Two raw eggs well beaten; vinegar, 1 pint; spirits of turpentine, 2 ounces; spirits of camphor, 1 ounce. Mix all well together and shake before using. Apply three or four times a day.

No. 19. Another Liniment to Stop Pain.

Origanum oil essential, 3 ounces; tincture myrrh, ¼ ounce; oil wintergreen, ¼ ounce; oil mustard, 1 drachm. Mix and apply to parts affected. Will stop any pain.

No. 20. For All Internal Pains.

Camphor, 2 ounces; gum myrrh, 2 ounces; whisky (good), 1 pint. Dose: One teaspoonful every half hour in hot water and sugar.

No. 21. For Rheumatism.

Saltpetre, 1 ounce; gum guaiacum, ½ ounce; powdered colchicum, ¼ ounce; sulphur, 1 ounce; powdered nutmegs, ¼ ounce; iodine potash, 1 drachm; fluid extract taraxicum, 1 ounce. Mix all with maple syrup to the consistency of castor oil. Dose: Teaspoonful every two hours until it moves the bowels freely; then three times daily after meals until well.

No. 22. Another for Rheumatism.

Butternut bark, 1 pound; black cherry bark, ½ pound; burdock root, ½ pound; yellow dock root, ½ pound; dandelion root, ½ pound. Cut up and put in 2 gallons of water and boil slowly down to 1 gallon. Strain, sweeten and add 1 pint of alcohol, and bottle for use. Keep in a cool place. Dose: One-half wineglassful three times a day.

No. 23. Cure for Kidney and Urinary Trouble.

Oil of juniper, ½ drachm; sweet nitre, 1 ounce; tincture of buchu, 1 ounce; glycerine, 1 ounce; tincture milkweed, 1 ounce; solution gum cassia, 1 ounce. Dose: Teaspoonful three times a day for adults.

No. 24. Recipe for Gravel.

Venice turpentine, 1 ounce; alcohol, 2 ounces. Dose: One teaspoonful morning and night before meals till a cure is effected.

No. 25. Recipe for Breaking Up Fevers.

Clean the stomach with an emetic of lobelia tincture, 1 teaspoonful. Give an injection made from red raspberry leaves and use the vapor bath.

No. 26. Remedy for Piles.

Cranesbill root, 2 ounces; rhubarb root, 1 ounce; poplar bark, ½ ounce; bistort root, 1 ounce; marshmallow root, 1 ounce; Jamaica ginger, ½ ounce; white sugar, ¼ pound. Simmer all roots and bark in hot water; then add sugar. Dose: One teaspoonful four times a day.

No. 27. Suppository for Inward Piles.

Carbolic acid, 10 drops; powdered nutgalls, ½ ounce; opium, 1 grain; calomel, ¼ ounce; cocoa-butter, 6 ounces; castor oil, 1 drachm. Melt butter first, then add all other ingredients and stir till thick, and form into pills. Insert one into the rectum every night.

No. 28. Another Pile Remedy.

Coal-tar, 1 ounce; white pine pitch, 1 ounce; mutton tallow, 1 ounce; witch-hazel, ¼ ounce; carbolic acid, 6 drops. Mix well and insert into the rectum every night.

No. 29. Cancer Plaster.

Chloride of zinc, 1 drachm; bloodroot, 1 drachm. Mix with flour and apply for twenty-four hours; then apply slippery elm poultice daily till it falls out.

No. 30. Healing Plaster.

Canadian pine pitch, 4 ounces; beeswax, 2 ounces; lard, 3 ounces. Mix lard and wax, then add pine pitch hot, and stir till cool and apply to parts affected.

No. 31. For Leucorrhea.

Tannic acid, ¼ to ½ ounce, in lukewarm water. Inject slowly. If the discharge is white or glary, use it night and morning. If not effectual, add 1 teaspoonful of alum. At the same time use a gentle laxative for the bowels. Continue the douche for two or three weeks to prevent a return.

No. 32. Another for Leucorrhea.

Boracic acid, 1½ ounces; salt, ½ ounce; carbolic acid, 10 to 15 drops; warm water, 2 quarts. Use as a douche every night and morning. This is splendid.

No. 33. For Gonorrhea.

Balsam of copaiba, 1 ounce; spirits of nitre, 1 ounce; liquor potassæ, 2 drachms; extract of licorice, ½ ounce. Mix well together and add 16 drops oil of checkerberry, 6 ounces syrup of acacia. Dose: Tablespoonful after eating three times daily. If there is any discharge, inject the following three or four times a day after urinating: Nitrate of silver, ¼ grain; pure water, 1 ounce.

No. 34. For Sea-Sickness.

Sodium bromide, 1 ounce; aqua; syrup simplex, a a 1½ ounces. M. Sig. Take a teaspoonful in water three times a day.

No. 35. Hair Tonic.

Rosemary, 2 ounces; lemon-juice, 1 ounce; glycerine, 1 ounce; lime, ½ ounce.

No. 36. Another for the Hair.

Bay rum, 4 ounces; rain water, 4 ounces; quinine, 20 grains; glycerine, 1 ounce; pulverized borax, 1 ounce; salt, ½ ounce. Mix and apply once a day.

No. 37. To Prevent the Hair from Falling.

Alcohol, ½ pint; salt, as much as will dissolve; glycerine, 1 ounce; flour of sulphur, ½ ounce. Mix and rub into scalp every morning.

No. 38. To Darken the Hair Without Bad Effects.

Blue vitriol powdered, 1 drachm; alcohol, 1 ounce; essence of roses, 10 drops; soft water, ½ pint. Mix and shake until dissolved. Apply once daily. To darken the eyebrows: Burnt cloves or elderberry juice.

No. 39. Sage Cream for Skin Diseases.

Alcohol, 2 quarts; castor oil, 6 ounces; ammonia, 1 ounce; pulverized borax, 2 ounces; sulphur, 2 ounces; sage, 1 ounce; water, 2 quarts. Boil last three ingredients in water ten minutes; cool and strain; then add the remainder. Used for all kinds of skin diseases; apply freely to the parts affected.

No. 40. A Good Tooth Powder.

Prepared chalk, 7 drachms; powdered orris root, 1 drachm; castile soap, ¼ ounce; spirits of camphor, 1 ounce; charcoal, ½ ounce. Mix all to a paste and use every morning.

MEASURES, FLUID AND COMMON

The following are the fluid measures used and the popular measures which fairly well correspond with them:

1 minim =1 drop.
60 minims =1 drachm =1 teaspoonful.
120 minims =2 drachms =1 dessertspoonful.
4 drachms =½ ounce =1 tablespoonful.
8 drachms =1 ounce =2 tablespoonfuls.
1 tablespoonful =2 dessertspoonfuls =4 teaspoonfuls.
5 tablespoonfuls =2½ ounces =1 wineglassful.
16 ounces =1 pint =2 tumblerfuls.
32 ounces =1 quart.
4 quarts =1 gallon.

Drops vary very much in size, according to the thickness of the fluid, and, therefore, only roughly equal one minim each. Spoons also are of such different capacities that sometimes one teaspoon or tablespoon will be half as big again as another. To avoid these very indefinite-sized measures, properly marked medicine glasses should be used. They are made in two sizes: those to measure minims, and those to measure drachms and ounces.

Medicines are prescribed in doses of various sizes, according to the doctor's discretion, and it is well to understand that the difference usually depends more upon the amount of water, or inactive ingredients used, than upon the active drugs, but this is not always the case. Sometimes the dose has to be made unusually large because of the strength of the drugs contained; for instance, if carbolic acid were given to a child for whooping-cough in two-grain doses, it would be necessary to give a larger amount of the mixture than a teaspoonful in order to make it sufficiently dilute to be unirritating to the stomach. Some drugs are given in the form of what is called an infusion, and it is necessary to give large doses in order to get their full effect—perhaps as much as half a tumblerful. The same applies to the doses of some of the natural aperient mineral waters. In other cases medicine is prescribed in a concentrated form, and water is ordered to be added to it.

ADDITIONAL

CELEBRATED PRESCRIPTIONS

BY DR. J. H. GUNN—TRIED, TESTED, AND NOT FOUND WANTING.

Ague in the Breast.—Take one part of gum camphor, two parts yellow bees-wax, three parts clean lard; let all melt slowly, in any vessel [earthen best], on stove. Use either cold or warm; spread very thinly on cotton or linen cloths, covering those with flannel. No matter if the breast is broken, it will cure if persevered in. Do not, no matter how painful, cease from drawing milk from the breast that is affected.

Bilious Colic.—Mix two tablespoonfuls of Indian meal in half a pint of cold water; drink it at two draughts.

Blackberry Cordial—To one quart blackberry juice add one pound white sugar, one tablespoonful each cloves, allspice, cinnamon and nutmeg. Boil together fifteen minutes, and add a wine-glass of whisky, brandy or rum. Bottle while hot, cork tight and seal. Used in diarrhœa and dysentry. Dose, a wine-glass for an adult, half that quantity for a child. It can be taken three or four times a day if the case is severe.

Blisters.—On the feet, occasioned by walking, are cured by drawing a needleful of worsted thread through them; clip it off at both ends and leave it till the skin peals off.

Raising Blood.—Make a tea of white oak bark, and drink freely during the day; or take half a pound of yellow dock root, boil in new milk, say one quart; drink one gill three times a day, and take one pill of white pine pitch every day.

How to Stop Bleeding.—Take the fine dust of tea, or the scrapings of the inside of tanned leather. Bind it upon the wound closely, and blood will soon cease to flow.

Boils.—Make a poultice of ginger and flour, and lay it on the boil. This will soon draw it to a head.

Swelled Bowels in Children.—Bathe the stomach of the child with catnip steeped, mixed with fresh butter and sugar.

Chilblain Lotion.—Dissolve one ounce muriate of ammonia in one-half pint cider vinegar, and apply frequently. One-half pint of alcohol may be added to this lotion with good effects.

Chilblain Ointment.—Take mutton tallow and lard, of each three-fourths of a pound avoirdupois; melt in an iron vessel, and add hydrated oxide of iron, two ounces, stirring continually with an iron spoon until the mass is of a uniform black color; when nearly cool add Venice turpentine, two ounces; Armenian bole, one ounce; oil of bergamot, one drachm; rub up the bole with a little olive oil before putting it in. Apply several times daily by putting it upon lint or linen. It heals the worst cases in a few days.

Russian Remedy for Chilblains.—Slices of the rind of fully ripe cucumbers, dried with the soft parts attached. Previous to use they are softened by soaking them in warm water, and are then bound on the sore parts with the inner side next them, and left on all night. This treatment is said to be adopted for both broken and unbroken chilblains.

How to Cure Chilblains.—Wash the parts in strong alum water, apply as hot as can be borne.

How to Cure Itching Chilblains.—Take hydrochloric acid, one part, and water, eight parts; mix. Apply on going to bed. This must not be used if the skin is broken.

Sal ammoniac, two ounces; rum, one pint; camphor, two drachms. The affected part is wetted night and morning, and when dry is touched with a little simple ointment of any kind—cold cream or pomatum.

Oil of turpentine, four ounces; camphor, six drachms; oil of cajeput, two drachms. Apply with friction.

How to Cure Broken Chilblains.—Mix together four fluid ounces collodion, one and a half fluid ounces Venice turpentine, and one fluid ounce castor oil.

How to Cure Soft Corns.—Scrape a piece of comman chalk, and put a pinch to the soft corn, and bind a piece of linen rag upon it.

How to Cure Tender Corns.—A strong solution of tannic acid is said to be an excellent application to tender feet as well as a preventive of the offensive odor attendant upon their profuse perspiration. To those of our readers who live far away in the country, we would suggest a strong decoction of oak bark as a substitute.

Caustic for Corns.—Tincture of iodine, four drachms; iodide of iron, twelve grains; chloride of antimony, four drachms; mix, and apply with a camel's hair brush, after paring the corn. It is said to cure in three times.

How to Relieve Corns.—Bind them up at night with a cloth wet with tincture of arnica, to relieve the pain, and during the day occasionally moisten the stocking over the corn with arnica if the shoe is not large enough to allow the corn being bound up with a piece of linen rag.

Remedy for Corns.—1. The pain occasioned by corns may be greatly relieved by the following preparation: Into a one-ounce vial put two drachms of muriatic acid and six drachms of rose-water. With this mixture wet the corns night and morning for three days. Soak the feet every evening in warm water without soap. Put one-third of the acid into the water, and with a little picking the corn will be dissolved. 2. Take a lemon, cut off a small piece, then nick it so as to let in the toe with the corn, tie this on at night so that it cannot move, and in the morning you will find that, with a blunt knife, you may remove a considerable portion of the corn. Make two or three applications, and great relief will be the result.

How to Cure Solvent Corns.—Expose salt of tartar (pearlash) in a wide-mouth vial in a damp place until it forms an oil-like liquid, and apply to the corn.

Signs of Disease in Children.—In the case of a baby not yet able to talk, it must cry when it is ill. The colic makes a baby cry loud, long, and passionately, and shed tears—stopping for a moment and beginning again.

If the chest is affected, it gives one sharp cry, breaking off immediately, as if crying hurt it.

If the head is affected, it cries in sharp, piercing shrieks, with low moans and wails between. Or there may be quiet dozing, and startings between.

It is easy enough to perceive, where a child is attacked by disease, that there has some change taken place; for either its skin will be dry and hot, its appetite gone; it is stupidly sleepy, or fretful or crying; it is thirsty, or pale and languid, or in some way betrays that something is wrong. When a child vomits, or has a diarrhœa, or is costive and feverish, it is owing to some derangement, and needs attention. But these various symptoms may continue for a day or two before the nature of the disease can be determined. A warm bath, warm drinks, etc., can do no harm, and may help to determine the case. On coming out of the bath, and being well rubbed with the hand, the skin will show symptoms of rash, if it is a skin disease which has commenced. By the appearance of the rash, the nature of the disease can be learned. Measles are in patches, dark red, and come out first about the face. If scarlet fever is impending, the skin will look a deep pink all over the body, though most so about the neck and face. Chicken-pox shows fever, but not so much running at the nose, and appearances of cold, as in measles, nor is there as much of a cough. Besides, the spots are smaller, and do not run much together, and are more diffused over the whole surface of the skin; and enlarge into blisters in a day or two.

How to Cure Bunions.—A bunion is a swelling on the ball of the great toe , and is the result of pressure and irritation by friction. The treatment for corns applies also to bunions; but in consequence of the greater extension of the disease the cure is more tedious. When a bunion is forming it may be stopped by poulticing and carefully opening it with a lancet.

Tea Leaves for Burns.—Dr. Searles, of Warsaw Wis., reports the immediate relief from pain in severe burns and scalds by the application of a poultice of tea leaves.

Castor Oil Mixture.—Castor oil, one dessert spoonful; magnesia, one dessert spoonful. Rub together into a paste. By this combination, the taste of the oil is almost entirely concealed, and children take it without opposition.

How to Disguise Castor Oil.—Rub up two drops oil of cinnamon with an ounce of glycerine and add an ounce of castor oil. Children will take it as a luxury and ask for more.

Castor Oil Emulsions.—Take castor oil and syrup, each one ounce; the yolk of an egg, and orange flower water, one-half ounce. Mix. This makes a very pleasant emulsion, which is readily taken by adults as well as children.

How to Cure a Cold—Take three cents' worth of liquorice, three of rock candy, three of gum arabic, and put them into a quart of water; simmer them till thoroughly dissolved, then add three cents' worth paregoric, and a like quantity of antimonial wine.

Cure for Drunkenness.—The following singular means of curing habitual drunkenness is employed by a Russian physician, Dr. Schreiber, of Brzese Litewski: It consists in confining the drunkard in a room, and in furnishing him at discretion with his favorite spirit diluted with two-thirds of water; as much wine, beer and coffee as he desires, but containing one-third of spirit; all the food—the bread, meat, and the legumes are steeped in spirit and water. The poor devil is continually drunk and dort. On the fifth day of this regime he has an extreme disgust for spirit; he earnestly requests other diet; but his desire must not be yielded to, until the poor wretch no longer desires to eat or drink; he is then certainly cured of his penchant for drunkenness. He acquires such a disgust for brandy or other spirits that he is ready to vomit at the very sight of it.

Cure for Weeping Eyes.—Wash the eyes in chamomile tea night and morning.

Eyes, Granular Inflammation.—A prominent oculist says that the contagious Egyptian or granular inflammation of the eyes is spreading throughout the country, and that he has been able in many, and indeed in a majority of cases, to trace the disease to what are commonly called rolling towels. Towels of this kind are generally found in country hotels and the dwellings of the working classes, and, being thus used by nearly every one, are made the carriers of one of the most troublesome diseases of the eye. This being the case, it is urgently recommended that the use of these rolling towels be discarded, and thus one of the special vehicles for the spread of a most dangerous disorder of the eyes—one by which thousands of workingmen are annually deprived of their means of support—will no longer exist.

Cure for Felons.—1. Stir one-half teaspoonful of water into an ounce of Venice turpentine until the mixture appears like granulated honey. Wrap a good coating of it around the finger with a cloth. If the felon is only recent, the pain will be removed in six hours.

2. As soon as the part begins to swell, wrap it with a cloth saturated thoroughly with the tincture of lobelia. An old physician says, that he has known this to cure scores of cases, and that it never fails if applied in season.

Cure for Fever Sores.—Take of hoarhound, balm, sarsaparilla, loaf sugar, aloes, gum camphor, honey, spikenard, spirits of turpentine, each two ounces. Dose, one tablespoonful, three mornings, missing three; and for a wash, make a strong tea of sumach, washing the affected parts frequently, and keeping the bandage well wet.

Cure for Fits.—Take of tincture of fox-glove, ten drops at each time twice a day, and increase one drop at each time as long as the stomach will bear it, or it causes a nauseous feeling.

Glycerine Cream.—Receipt for chapped lips: Take of spermaceti, four drachms; white wax, one drachm; oil of almonds, two troy ounces; glycerine, one troy ounce. Melt the spermaceti, wax and oil together, and when cooling stir in glycerine and perfume.

Glycerine Lotion.—For softening the skin of the face and hands, especially during the commencement of cold weather, and also for allaying the irritation caused by the razor: Triturate, four and a half grains of cochineal with one and a half fluid ounces of boiling water, adding gradually; then add two and a half fluid ounces of alcohol. Also make an emulsion of eight drops of ottar of roses with thirty grains of gum arabic and eight fluid ounces of water; then add three fluid ounces of glycerine, and ten fluid drachms of quince mucilage. Mix the two liquids.

Fleshworms—These specks, when they exist in any number, are a cause of much unsightliness. They are minute corks, if we may use the term, of coagulated lymph, which close the orifices of some of the pores or exhalent vessels of the skin. On the skin immediately adjacent to them being pressed with the finger nails, these bits of coagulated lymph will come from it in a vermicular form. They are vulgarly called "flesh worms," many persons fancying them to be living creatures. These may be got rid of and prevented from returning, by washing with tepid water, by proper friction with a towel, and by the application of a little cold cream. The longer these little piles are permitted to remain in the skin the more firmly they become fixed; and after a time, when they lose their moisture, they are converted into long bony spines as dense as bristles, and having much of that character. They are known by the name of spotted achne. With regard to local treatment the following lotions are calculated to be serviceable: 1. Distilled rose water, 1 pint; sulphate of zinc, 20 to 60 grains. Mix. 2. Sulphate of copper, 20 grains; rose-water, 4 ounces; water, 12 ounces. Mix. 3. Oil of sweet almonds, 1 ounce; fluid potash, 1 drachm. Shake well together and then add rose-water, 1 ounce; pure water, 6 ounces. Mix. The mode of using these remedies is to rub the pimples for some minutes with a rough towel, and then dab them with the lotion. 4. Wash the face twice a day with warm water, and rub dry with a coarse towel. Then with a soft towel rub in a lotion made of two ounces of white brandy, one ounce of cologne, and one-half ounce of liquor potassa.

How to Remove Freckles.— Freckles, so persistently regular in their annual return, have annoyed the fair sex from time immemorial, and various means have been devised to eradicate them, although thus far with no decidedly satisfactory results. The innumerable remedies in use for the removal of these vexatious intruders, are either simple and harmless washes, such as parsley or horseradish water, solutions of borax, etc., or injurious nostrums, consisting principally of lead and mercury salts.

If the exact cause of freckles were known, a remedy for them might be found. A chemist in Moravia, observing the bleaching effect of mercurial preparations, inferred that the growth of a local parasitical fungus was the cause of the discoloration of the skin, which extended and ripened its spores in the warmer season. Knowing that sulpho-carbolate of zinc is a deadly enemy to all parasitic vegetation (itself not being otherwise injurious), he applied this salt for the purpose of removing the freckles. The compound consists of two parts of sulpho-carbolate of zinc, twenty-five parts of distilled glycerine, twenty-five parts of rose-water, and five parts of scented alcohol, and is to be applied twice daily for from half an hour to an hour, then washed off with cold water. Protection against the sun by veiling and other means is recommended, and in addition, for persons of pale complexion, some mild preparation of iron.

Wash for the Hair. — Castile soap, finely shaved, one teaspoonful; spirits of hartshorn, one drachm; alcohol, five ounces; cologne water and bay rum, in equal quantities enough to make eight ounces. This should be poured on the head, followed by warm water (soft water); the result will be, on washing, a copious lather and a smarting sensation to the person operated on. Rub this well into the hair. Finally, rinse with warm water, and afterwards with cold water. If the head is very much clogged with dirt, the hair will come out plentifully, but the scalp will become white and perfectly clean.

How to Clean the Hair.—From the too frequent use of oils in the hair, many ladies destroy the tone and color of their tresses. The Hindoos have a way of remedying this. They take a hand basin filled with cold water, and have ready a small quantity of pea flour. The hair is in the first place submitted to the operation of being washed in cold water, a handful of the pea flour is then applied to the head and rubbed into the hair for ten minutes at least, the servant adding fresh water at short intervals, until it becomes a perfect lather. The whole head is then washed quite clean with copious supplies of the aqueous fluid, combed, and afterwards rubbed dry by means of coarse towels. The hard and soft brush is then resorted to, when the hair will be found to be wholly free from all ensumbering oils and other impurities, and assume a glossy softness, equal to the most delicate silk. This process tends to preserve the tone and natural color of the hair, which is so frequently destroyed by the too constant use of caustic cosmetics.

Cure for Heartburn.—Sal volatile combined with camphor is a splendid remedy.

Sick Headache—Take a teaspoonful of powdered charcoal in molasses every morning, and wash it down with a little tea, or drink half a glass of raw rum or gin, and drink freely of mayweed tea.

Headache. — Dr. Silvers, of Ohio, in the Philadelphia *Medical and Surgical Reporter,* recommends ergot in headache, especially the nervous or sick headache. He says it will cure a larger proportion of cases than any other remedy. His theory of its action is that it lessens the quantity of blood in the brain by contracting the muscular fibres of the arterial walls. He gives ten to twenty drops of the fluid extract, repeated every half hour till relief is obtained, or four or five doses used. In other forms of disease, where opium alone is contra-indicated, its bad effects are moderated, he says, by combining it with ergot.

Headache Drops.— For the cure of nervous, sun, and sick headache, take two quarts of alcohol, three ounces of Castile soap, one ounce camphor, and two ounces ammonia. Bathe forehead and temples.

Hive Syrup.—Put one ounce each of squills and seneca snake-root into one point of water; boil down to one-half and strain. Then add one-half pound of clarified honey containing twelve grains tartrate of antimony. Dose for a child, ten drops to one teaspoonful, according to age. An excellent remedy for croup.

How to Remove Stains from the Hands.—Damp the hands first in water, then rub them with tartaric acid, or salt of lemons, as you would with soap; rinse them and rub them dry. Tartaric acid, or salt of lemons, will quickly remove stains from white muslin or linen. Put less than half a teaspoonful of salt or acid into a tablespoonful of water; wet the stain with it, and lay it in the sun for an hour; wet it once or twice with cold water during the time; if this does not quite remove it, repeat the acid water, and lay it in the sun.

How to Whiten Hands.—1. Stir ¼ of a pound of Castile soap, and place it in a jar near the fire, pour over it ½ pint of alcohol; when the soap is dissolved and mixed with the spirit, add 1 ounce of glycerine, the same of oil of almonds, with a few drops of essence of violets, or ottar of roses, then pour it into moulds to cool for use. 2. A wine-glassful of eau-de-cologne, and one of lemon-juice, two cakes of broken Windsor soap, mixed well together, when hard, will form an excellent substance.

How to Cure Scurf in the Head. — A simple and effectual remedy. Into a pint of water drop a lump of fresh quick lime, the size of a walnut; let it stand all night, then pour the water off clear from the sediment or deposit, add ¼ of a pint of the best vinegar, and wash the head with the mixture. Perfectly harmless; only wet the roots of the hair.

How to Cure Chapped Lips. —Take 2 ounces of white wax, 1 ounce of spermaceti, 4 ounces of oil of almonds, 2 ounces of honey, ¼ of an ounce of essence of bergamot, or any other scent. Melt the wax and spermaceti; then add the honey, and melt all together, and when hot add the almond oil by degrees, stirring till cold. 2. Take oil of almonds 3 ounces; spermaceti, ½ ounce; virgin rice, ½ ounce. Melt these together over a slow fire, mixing with them a little powder of alkane root to color it. Keep stirring till cold, and then add a few drops of the oil of rhodium. 3. Take oil of almonds, spermaceti, white wax, and white sugar candy, equal parts. These form a good, white lip salve.

How to Remove Moth Patches.— Wash the patches with solution of common bicarbonate of soda and water several times during the day for two days, or until the patches are removed, which will usually be in forty-eight hours. After the process wash with some nice toilet soap, and the skin will be left nice, smooth and clear of patches.

How to Cure Hiccough.—A convulsive motion of the diaphragm and parts adjacent. The common causes are flatuency, indigestion, acidity and worms. It may usually be removed by the exhibition of warm carminatives, cordials, cold water, weak spirits, camphor julep, or spirits of sal volatile. A sudden fright or surprise will often produce the like effect. An instance is recorded of a delicate young lady that was troubled with hiccough for some months, and who was reduced to a state of extreme debility from the loss of sleep occasioned thereby, who was cured by a fright, after medicines and topical applications had failed. A pinch of snuff, a glass of cold soda-water, or an ice-cream, will also frequently remove this complaint.

Remedies for Hoarseness.—Take one drachm of freshly scraped horse-radish root, to be infused with four ounces of water in a closed vessel for three hours, and made into a syrup, with double its quantity of vinegar. A teaspoonful has often proved effectual.

How to Cure Humors.—Take equal parts of saffron and seneca snake root, make a strong tea, drink one half-pint a day, and this will drive out all humors from the system.

How to Cure Hysterics.—Take the leaves of motherwort and thoroughwort, and the bark of poplar root; equal parts. Mix them in molasses, and take four of them when the first symptoms of disorder are felt, and they will effectually check it.

How to Cure Barber's Itch.— Moisten the parts affected with saliva (spittle) and rub it over thoroughly three times a day with the ashes of a good Havana cigar. This is a simple remedy, yet it has cured the most obstinate cases.

Itch Ointments.—1. Take lard, one pound; suet, one pound; sugar of lead, eight ounces; vermillion, two ounces. Mix. Scent with a little bergamot. 2. Take bichloride of mercury, one ounce; lard, one pound; suet, one pound, hydrochloride acid, one and a half ounces. Melt and well mix, and when perfectly cold, stir in essence of lemon, four drachms; essence of bergamot, one drachm. 3. Take powdered chloride of lime, one ounce; lard, one pound. Mix well, then add essence of lemon, two drachms. 4. Take bichloride of mercury, one part; lard, fifteen parts. Mix well together. 5. Take white precipitate, one part; lard, twelve parts. Mix. A portion of either of these ointments must be well rubbed on the parts affected, night and morning.

Ointment for Itch. — White precipitate, fifteen grains; saltpetre, one-half drachm; flour of sulphur, one drachm. Mix well with lard, two ounces. Long celebrated for the cure of itch.

Sulphur Ointment.—Flour of sulphur, eight ounces; oil of bergamot, two drachms; lard, one pound. Rub freely three times a day, for itch.

How to Cure Seven-Year Itch. — 1. Use plenty of castile soap and water, and then apply freely iodide of sulphur ointment; or take any given quantity of simple sulphur ointment and color it to a light brown or chocolate color with the subcarbonate of iron, and then perfume it. Apply this freely, and if the case should be a severe one, administer mild alteratives in conjunction with the outward application. 2. The sulphur bath is a good remedy for itch or any other kind of skin diseases. Leprosv (the most obstinate of all) has been completely cured by it, and the common itch only requires two or three applications to completely eradicate it from the system. 3. Benzine, it is said, will effect a complete cure for scabies in the course of half to three-quarters of an hour, after which the patient should take a warm bath from twenty to thirty minutes.

How to Cure Jaundice.—1. Take the whites of two hen eggs, beat them up well in a gill of water; take of this a little every morning; it will soon do good. It also creates an appetite, and strengthens the stomach. 2. Take of black cherry-tree bark, two ounces; blood root and gold thread, each half an ounce; put in a pint of brandy. Dose, from a teaspoonful to a tablespoonful morning and night.

How to Cure Stiffened Joints.—Take of the bark of white oak and sweet apple trees, equal parts; boil them down to a thick substance, and then add the same quantity of goose-grease or oil, simmer all together, and then rub it on the parts warm.

Sore Throat Liniment.—Gum camphor, two ounces; castile soap, shaved fine, one drachm; oil of turpentine and oil of origanum, each one-half ounce; opium, one-fourth of an ounce; alcohol, one pint. In a week or ten days they will be fit for use. Bathe the parts freely two or three times daily until relief is obtained.

A Wonderful Liniment.—Two ounces oil of spike, two ounces origanum, two ounces hemlock, two ounces wormwood, four ounces sweet oil, two ounces spirit of ammonia, two ounces gum camphor, two ounces spirits turpentine. Add one quart strong alcohol. Mix well together, and bottle tight. This is an unequaled horse liniment, and of the best ever made for human ailments such as rheumatism, sprains, etc.

How to Cure Sore Lips.—Wash the lips with a strong tea, made from the bark of the white oak.

Lock Jaw.—It is said that the application of warm lye, made of ashes as strong as possible, to a wounded part, will prevent a locked jaw; if a foot or hand, immerse in it; if another part of the body, bathe with flannels wrung out of the warm lye.

Ointment for Sore Nipples.—Glycerine, rose water and tannin, equal weights, rubbed together into an ointment, is very highly recommended for sore or cracked nipples.

Glycerine Ointment.—Melt together spermaceti, two drachms; white wax, one-half drachm; oil of sweet almonds, two ounces, and then add glycerine, one ounce, and stir briskly until cool. An admirable application for chapped hands, etc.

Painters' Colic.—Make of tartaric acid a syrup similar to that of lemon syrup; add a sufficient quantity of water, and drink two or three glasses a day.

Instantaneous Pain-Killer.—Another and even more instant cure of pain is made as follows: Take aqua-ammonia, sulphuric ether and alcohol, equal parts, and apply over the pain.

How to Cure Pimples.—Take a teaspoonful of the tincture of gum guaiacum and one teaspoonful of vinegar; mix well and apply to the affected parts.

Poor Man's Plaster.—Melt together beeswax, one ounce; tar, three ounces; resin, three ounces, and spread on paper or muslin.

Rheumatic Plaster.—One-fourth pound of resin and one-fourth pound of sulphur; melt by a slow fire, and add one ounce of Cayenne pepper and one-fourth of an ounce of camphor gum; stir well till mixed, and temper with neatsfoot oil.

Strengthening Plaster.—Litharge plasters, twenty-four parts; white resin, six parts; yellow wax and olive oil, of each three parts, and red oxide of iron, eight parts. Let the oxide be rubbed with the oil, and the other ingredients added melted, and mix the whole well together. The plaster, after being spread over the leather, should be cut into strips two inches wide and strapped firmly around the joint.

Mustard Plasters.—It is stated that in making a mustard plaster, no water whatever should be used, but the mustard mixed with the white of an egg; the result will be a plaster that will "draw" perfectly, but will not produce a blister even upon the skin of an infant, no matter how long it is allowed to remain upon the part.

Bread and Milk Poultice.—Take stale bread in crumbs, pour boiling sweet milk, or milk and water over it, and simmer till soft, stirring it well; then take it from the fire, and gradually stir in a little glycerine or sweet oil, so as to render the poultice pliable when applied.

Linseed Poultice. — Take of linseed, powdered, four ounces; hot water sufficient, mix and stir well with a spoon, until of suitable consistence. A little oil should be added, and some smeared over the surface as well, to prevent its getting hard. A very excellent poultice, suitable for many purposes.

Spice Poultice.—Powdered cinnamon, cloves and Cayenne pepper, of each two ounces; rye meal, or flour, spirits and honey, of each sufficient to make of suitable consistence.

Healing Salve.—Sweet oil, three parts; resin, three ounces; beeswax, three ounces. Melt together; then add powdered red lead, two pounds; heat all these together and when nearly cold add a piece of camphor as large as a nutmeg. Good for burns, etc.

Salt Rheum.—1. Make a strong tea of elm root bark; drink the tea freely, and wash the affected part in the same. 2. Take one ounce of blue flag root, steep it in half a pint of gin; take a teaspoonful three times a day, morning, noon and night, and wash with the same. 3. Take one ounce of oil of tar, one drachm of oil of checkerberry; mix. Take from five to twenty drops morning and night as the stomach will bear.

Sickness of Stomach.—Drink three or four times a day of the steep made from the bark of white poplar roots.

Sunburn and Tan.—1. Take two drachms of borax, one drachm of Roman alum, one drachm of camphor, half an ounce of sugar candy, and a pound of ox-gall. Mix, and stir well for ten minutes or so, and repeat this stirring three or four times a day for a fortnight, till it appears clear and transparent. Strain through blotting paper, and bottle up for use. 2. Milk of almonds made thus: Take of blanched bitter almonds half an ounce, soft water half a pint; make an emulsion by beating the almonds and water together, strain through a muslin cloth, and it is made. 3. A preparation composed of equal parts of olive oil and lime water is also an excellent remedy for sunburn.

To Produce Sweat.—Take of nitre, one-half drachm; snake's head (herb), saffron, camphor, snake-root, seneca, bark of sassafras root, each one ounce; ipecac, and opium, each one-half ounce; put the above in three quarts of Holland gin, and take a tablespoonful in catnip tea every few minutes, till a sweat is produced.

Teething.—Young children whilst cutting their first set of teeth often suffer severe constitutional disturbance. At first there is restlessness and peevishness, with slight fever, but not unfrequently these are followed by convulsive fits, as they are commonly called, which depends on the brain becoming irritated; and sometimes under this condition the child is either cut off suddenly, or the foundation of serious mischief to the brain is laid. The remedy, or rather the safeguard, against these frightful consequences is trifling, safe, and almost certain, and consists merely in lancing the gum covering the tooth which is making its way through. When teething is about it may be known by the spittle constantly driveling from the mouth and wetting the frock. The child has its fingers in its mouth, and bites hard any substance it can get hold of. If the gums be carefully looked at, the part where the tooth is pressing up is swollen and redder than usual; and if the finger be pressed on it the child shrinks and cries, showing that the gum is tender. When these symptoms occur, the gum should be lanced, and sometimes the tooth comes through the next day, if near the surface; but if not so far advanced the cut heals and a scar forms, which is thought by some objectionable, as rendering the passage of the tooth more difficult. This, however, is untrue, for the scar will give way much more easily than the uncut gum. If the tooth does not come through after two or three days, the lancing may be repeated; and this is more especially needed if the child be very fractious, and seems in much pain. Lancing the gums is further advantageous, because it empties the inflamed part of its blood, and so relieves the pain and inflammation. The relief children experience in the course of two or three hours from the operation is often very remarkable, as they almost immediately become lively and cheerful.

Wash for Teeth and Gums. — The teeth should be washed night and morning, a moderately small and soft brush being used; after the morning ablution, pour on a second tooth-brush, slightly dampened, a little of the following lotion: Carbolic acid, 20 drops; spirits of wine, 2 drachms; distilled water, 6 ounces. After using this lotion a short time the gums become firmer and less tender, and impurity of the breath (which is most commonly caused by bad teeth), will be removed. It is a great mistake to use hard tooth-brushes, or to brush the teeth until the gums bleed.

Tetter.—After a slight feverish attack, lasting two or three days, clusters of small, transparent pimples, filled sometimes with a colorless, sometimes with a brownish lymph, appear on the cheeks or forehead, or on the extremities, and at times on the body. The pimples are about the size of a pea, and break after a few days, when a brown or yellow crust is formed over them, which falls off about the tenth day, leaving the skin red and irritable. The eruption is attended with heat; itching, tingling, fever, and restlessness, especially at night. Ringworm is a curious form of tetter, in which the inflamed patches assume the form of a ring.

Treatment.—Should consist of light diet, and gentle laxatives. If the patient be advanced in life, and feeble, a tonic will be desirable. For a wash, white vitriol, 1 drachm; rose-water, 3 ounces, mixed; or an ointment made of alder-flower ointment, 1 ounce; oxide of zinc, 1 drachm.

To Remove Tan.—Tan may be removed from the face by mixing magnesia in soft water to the consistency of paste, which should then be spread on the face and allowed to remain a minute or two. Then wash off with Castile soap suds, and rinse with soft water.

How to Cure White Swelling.—Draw a blister on the inside of the leg below the knee; keep it running with ointment made of hen manure, by simmering it in hog's lard with onions; rub the knee with the following kind of ointment: Bits of peppermint, oil of sassafras, checkerberry, juniper, one drachm each; simmer in one-half pint neatsfoot oil, and rub on the knee three times a day.

How to Cure Wounds. — Catnip steeped, mixed with fresh butter and sugar.

Scalding of the Urine.—Equal parts of the oil of red cedar, and the oil of spearmint.

Urinary Obstructions.—Steep pumpkin seeds in gin, and drink about three glasses a day; or, administer half a drachm uva ursi every morning, and a dose of spearmint.

Free Passage of Urine.—The leaves of the currant bush made into a tea, and taken as a common drink.

ACCIDENTS AND INJURIES, AND HOW TO MEET THEM.

As accidents are constantly liable to occur, the importance of knowing how best to meet the various emergencies that may arise can hardly be over-estimated. In all cases, and under all circumstances, the best help to assist a party in this trying moment is *presence of mind.*

Harvest Bug Bites.—The best remedy is the use of benzine, which immediately kills the insect. A small drop of tincture of iodine has the same effect.

Bites and Stings of Insects. — Such as bees, wasps, hornets, etc., although generally painful, and ofttimes causing much disturbance, yet are rarely attended with fatal results. The pain and swelling may generally be promptly arrested by bathing freely with a strong solution of equal parts of common salt and baking soda, in warm water; or by the application of spirits of hartshorn; or of volatile liniment (one part of spirits of hartshorn and two of olive oil). In the absence of the other articles, warm oil may be used; or, if this is not at hand, apply a paste made from fresh clay-earth. If the sting of the insect is left in the wound, as is frequently the case, it should always be extracted. If there is faintness, give some stimulant; as, a tablespoonful or two of brandy and water, or brandy and ammonia.

Mad Dog Bites.—1. Take immediately warm vinegar or tepid water; wash the wound clean therewith and then dry it; pour upon the wound, then, ten or twelve drops of muriatic acid. Mineral acids destroy the poison of the saliva, by which means the evil effects of the latter are neutralized. 2. Many think that the only sure preventive of evil following the bite of a rabid dog is to suck the wound immediately, before the poison has had time to circulate with the blood. If the person bit cannot get to the wound to suck it, he must persuade or pay another to do it for him. There is no fear of any harm following this, for the poison entering by the stomach cannot hurt a person. A spoonful of the poison might be swallowed with impunity, but the person who sucks the place should have no wound on the lip or tongue, or it might be dangerous. The precaution alluded to is a most important one, and should never be omitted prior to an excision and the application of lunar caustic in every part, especially the interior and deep-seated portions. No injury need be anticipated if this treatment is adopted promptly and effectively. The poison of hydrophobia remains latent on an average six weeks, the part heals over, but there is a pimple or wound, more or less irritable; it then becomes painful; and the germ, whatever it is, ripe for dissemination into the system, and then all hope is gone. Nevertheless, between the time of the bite and the activity of the wound previous to dissemination, the caustic of nitrate of silver is a sure preventive; after that it is as useless as all the other means. The best mode of application of the nitrate of silver is by introducing it solidly into the wound.

Serpents' Bites.—The poison inserted by the stings and bites of many venomous reptiles is so rapidly absorbed, and of so fatal a description, as frequently to occasion death before any remedy or antidote can be applied; and they are rendered yet more dangerous from the fact that these wounds are inflicted in parts of the country and world where precautionary measures are seldom thought of, and generally at times when people are least prepared to meet them. 1. In absence of any remedies, the first best plan to adopt on being bitten by any of the poisonous snakes is to do as recommended above in Mad Dog Bites—viz., to wash off the place immediately; if possible get the mouth to the spot, and forcibly suck out all the poison, first applying a ligature above the wound as tightly as can be borne. 2. A remedy promulgated by the Smithsonian Institute is to take 30 grs. iodide potassium, 30 grs. iodine, 1 oz. water, to be applied externally to the wound by saturating lint or batting—

the same to be kept moist with the antidote until the cure be effected, which will be in one hour, and sometimes instantly. 3. An Australian physician has tried and recommends carbolic acid, diluted and administered internally every few minutes until recovery is certain. 4. Another Australian physician, Professor Halford, of Melbourne University, has discovered that if a proper amount of dilute ammonia be injected into the circulation of a patient suffering from snake-bite, the curative effect is usually sudden and startling, so that, in many cases, men have thus been brought back, as it were, by magic, from the very shadow of death.

Bleeding at the Nose.—1. Roll up a piece of paper, and press it under the upper lip. 2. In obstinate cases blow a little gum Arabic up the nostrils through a quill, which will immediately stop the discharge; powdered alum is also good. 3. Pressure by the finger over the small artery near the ala (wing) of the nose, on the side where the blood is flowing, is said to arrest the hemorrhage immediately.

Bleeding from the Mouth. — This is generally caused by some injury to the cheeks, gums or tongue, but it sometimes occurs without any direct cause of this kind, and no small alarm may be caused by mistaking it for bleeding from the lungs. Except when an artery of some size is injured, bleeding from the mouth can generally be controlled by gargling and washing the mouth with cold water, salt and water, or alum and water, or some persulphate of iron may be applied to the bleeding surface. Sometimes obstinate or even alarming bleeding may follow the pulling of a tooth. The best remedy for this is to plug the cavity with lint or cotton wet with the solution of persulphate of iron, and apply a compress which may be kept in place by closing the teeth on it.

Burns and Scalds.—There is no class of accidents that cause such an amount of agony, and none which are followed with more disastrous results.

1. By putting the burned part under cold water, milk, or other bland fluid, instantaneous and perfect relief from all pain will be experienced. On withdrawal, the burn should be perfectly covered with half an inch or more of common wheaten flour, put on with a dredging-box, or in any other way, and allowed to remain until a cure is effected, when the dry, caked flour will fall off, or can be softened with water, disclosing a beautiful, new and healthy skin, in all cases where the burns have been superficial. 2. Dissolve white lead in flaxseed oil to the consistency of milk, and apply over the entire burn or scald every five minutes. It can be applied with a soft feather. This is said to give relief sooner, and to be more permanent in its effects, than any other application. 3. Make a saturated solution of alum (four ounces to a quart of hot water). Dip a cotton cloth in this solution and apply immediately on the burn.

As soon as it becomes hot or dry, replace it by another, and continue doing so as often as the cloth dries, which at first will be every few minutes. The pain will immediately cease, and after twenty-four hours of this treatment the burn will be healed; especially if commenced before blisters are formed. The astringent and drying qualities of the alum will entirely prevent their formation. 4. Glycerine, five ounces; white of egg, four ounces; tincture of arnica, three ounces. Mix the glycerine and white of egg thoroughly in a mortar, and gradually add the arnica. Apply freely on linen rags night and morning, washing previously with warm castile soap-suds. 5. Take one drachm of finely powdered alum, and mix thoroughly with the white of two eggs and one teacup of fresh lard; spread on a cloth, and apply to the parts burnt. It gives almost instant relief from pain, and, by excluding the air, prevents excessive inflammatory action. The application should be changed at least once a day. 6. M. Joel, of the Children's Hospital, Lausanne, finds that a tepid bath, containing a couple of pinches of sulphate of iron, gives immediate relief to young children who have been extensively burned. In a case of a child four years old, a bath repeated twice a day—twenty minutes each bath—the suppuration decreased, lost its odor, and the little sufferer was soon convalescent. 7. For severe scalding, carbolic acid has recently been used with marked benefit. It is to be mixed with thirty parts of the ordinary oil of lime water to one part of the acid. Linen rags saturated in the carbolic emulsion are to be spread on the scalded parts, and kept moist by frequently smearing with the feather dipped in the liquid. Two advantages of this mode of treatment are, the exclusion of air, and the rapid healing by a natural restorative action without the formation of pus, thus preserving unmarred the personal appearance of the patient—a matter of no small importance to some people.

Choking.—In case of Choking, a violent slap with the open hand between the shoulders of the sufferer will often effect a dislodgmeent. In case the accident occurs with a child, and the slapping process does not afford instant relief, it should be grasped by the feet, and placed head downwards, and the slapping between the shoulders renewed; but in case this induced violent suffocative paroxysms it must not be repeated. If the substance, whatever it may be, has entered the windpipe, and the coughing and inverting the body fails to dislodge it, it is probable that nothing but cutting open the windpipe will be of any avail; and for this the services of a surgeon should always be procured. If food has stuck in the throat or gullet, the forefinger should be immediately introduced; and if lodged at the entrance of the gullet, the substance may be reached and extracted, possibly, with the forefinger alone, or may be seized with a pair of pincers, if at hand, or a curling tongs, or anything of the kind. This procedure may be facilitated by directing the person to put the tongue well out, in which position it may be retained by the individual himself, or a bystander by grasping it, covered with a handkerchief or towel. Should this fail, an effort should be made to excite retching or vomiting by passing the finger to the root of the tongue, in hopes that the offending substance may in this way be dislodged; or it may possibly be effected by suddenly and unexpectedly dashing in the face a basin of cold water, the shock suddenly relaxing the muscular spasm present, and the involuntary gasp at the same time may move it up or down. If this cannot be done, as each instant's delay is of vital importance to a choking man, sieze a fork, a spoon, a penholder, pencil, quill, or anything suitable at hand, and endeavor to push the article down the throat. If it be low down the gullet, and other means fail, its dislodgment may sometimes be effected by dashing cold water on the spine, or vomiting may be induced by an emetic of sulphate of zinc (twenty grains in a couple of tablespoonfuls of warm water), or of common salt and mustard in like manner, or it may be pushed into the stomach by extemporizing a probang, by fastening a small sponge to the end of a stiff strip of whalebone. If this cannot be done, a surgical operation will be necessary. Fish bones or other sharp substances, when they cannot be removed by the finger or forceps, may sometimes be dislodged by swallowing some pulpy mass, as masticated bread, etc. Irregularly shaped substances, a plate with artificial teeth for instance, can ordinarily be removed only by surgical interference.

Cramp.—Spasmodic or involuntary contractions of the muscles generally of the extremities, accompanied with great pain. The muscles of the legs and feet are the most commonly affected with cramp, especially after great exertion. The best treatment is immediately to stand upright, and to well rub the part with the hand. The application of strong stimulants, as spirits of ammonia, or of anodines, as opiate liniments, has been recommended. When cramp occurs in the stomach, a teaspoonful of sal volatile in water, or a dram glassful of good brandy, should be swallowed immediately. When cramp comes on during cold bathing, the limb should be thrown out as suddenly and violently as possible, which will generally remove it, care being also taken not to become flurried nor frightened, as presence of mind is very essential to personal safety on such an occasion. A common cause of cramp is indigestion, and the use of acescent liquors; these should be avoided.

Cuts.—In case the flow of blood is trifling, stop the bleeding by bringing the edges of the wound together. If the flow of blood is great, of a bright vermillion color, and flows in spurts or with a jerk, an artery is severed, and at once should pressure be made on the parts by the finger (between the cut and the heart), until a compress is arranged by a tight ligature above the wounded part. Then the finger may be taken off, and if the blood still flows, tighten the handkerchief or other article that forms the ligature, until it ceases. If at this point the attendance of a physician or surgeon cannot be secured, take strong silk thread, or wax together three or four threads, and cut them into lengths of about a foot long. Wash the parts with warm water, and then with a sharp hook or small pair of pincers in your hand, fix your eye steadfastly upon the wound, and directing the ligature to be slightly released, you will see the mouth of the artery from which the blood springs. At once seize it, draw it out a little, while an assistant passes a ligature round it, and ties it up tight with a double knot. In this way take up in succession every bleeding vessel you can see or get hold of. If the wound is too high up in a limb to apply the ligature, do not lose your presence of mind. If it is the thigh, press firmly on the groin; if in the arm, with the hand end or ring of a common door-key make pressure above the collar-bone, and about its middle, against its first rib, which lies under it. The pressure should be continued until assistance is procured and the vessel tied up. If the wound is on the face, or other place where pressure cannot effectually be made, place a piece of ice directly over the wound, allowing it to remain there until the blood coagulates, when it may be removed, and a compress and bandage be applied.

After the bleeding is arrested the surrounding blood should be cleared away, as well as any extraneous matter; then bring the sides of the wound into contact throughout the whole depth, in order that they may grow together as quickly as possible, retaining them in their position by strips of adhesive plaster. If the wound be deep and extensive, the wound itself and the adjacent parts must be supported by proper bandages. The position of the patient should be such as will relax the skin and muscles of the wounded part. Rest, low and unstimulating diet, will complete the requirements necessary to a speedy recovery.

How to Distinguish Death.—As many instances occur of parties being buried alive, they being to all appearance dead, the great importance of knowing how to distinguish real from imaginary death need not be explained. The appearances which mostly accompany death, are an entire stoppage of breathing, of the heart's action; the eyelids are partly closed, the eyes glassy, and the pupils usually dilated; the jaws are clenched, the fingers partially contracted, and the lips and nostrils more or less covered with frothy mucus, with increasing pallor and coldness of surface, and the muscles soon become rigid and the limbs fixed in their position. But as these same conditions may also exist in certain other cases of suspended animation, great care should be observed, whenever there is the least doubt concerning it, to prevent the unnecessary crowding of the room in which the corpse is, or of parties crowding around the body; nor should the body be allowed to remain lying on the back without the tongue being so secured as to prevent the glottis or orifice of the windpipe being closed by it; nor should the face be closely covered; nor rough usage of any kind be allowed. In case there is great doubt, the body should not be allowed to be inclosed in the coffin, and under no circumstances should burial be allowed until there are unmistakable signs of decomposition.

Of the numerous methods proposed as signs for real death, we select the following: 1. So long as breathing continues, the surface of a mirror held to the mouth and nostrils will become dimmed with moisture. 2. If a strong thread or small cord be tied tightly round the finger of a living person, the portion beyond the cord or thread will become red and swollen—if dead, no change is produced. 3. If the hand of a living person is held before a strong light a portion of the margin or edges of the fingers is translucent—if dead, every part of it is opaque. 4. A coal of fire, a piece of hot iron, or the flame of a candle, applied to the skin, if life remains, will blister—if dead it will merely sear. 5. A bright steel needle introduced and allowed to remain for half an hour in living flesh will be still bright—if dead, it will be tarnished by oxydation. 6. A few drops of a solution of atropia (two grains to one-half ounce of water) introduced into the eye, if the person is alive, will cause the pupils to dilate—if dead, no effect will be produced. 7. If the pupil is already dilated, and the person is alive, a few drops of tincture of the calabar bean will cause it to contract—if dead, no effect will be produced.

Dislocations.—These injuries can mostly be easily recognized: 1. By the deformity that the dislocation gives rise to by comparing the alteration in shape with the other side of the body. 2. Loss of some of the regular movements of the joints. 3. In case of dislocation, surgical aid should be procured at once. While waiting the arrival of a physician, the injured portion should be placed in the position most comfortable to the patient, and frequent cold bathing or cloths wrung out of cold water, applied to the parts affected, so as to relieve suffering and prevent inflammation.

Foreign Bodies inEars. — Great care should be taken in removing foreign bodies from the ear, as serious injury may be inflicted. Most foreign bodies, especially those of small size, can be easily removed by the use of a syringe with warm water, and in most cases no other means should be used. Should the first efforts fail, repeat the operation. A syringe throwing a moderately small and continuous stream is the best adapted for the purpose, and the removal may generally be facilitated by inclining the ear downward while using the syringe. Severe inflammation may be excited, and serious injury done, by rash attempts to seize a foreign body in the ear, with a forceps or tweezers, or trying to pick it out with a pin or needle, or with an ear scoop. Should it be necessary from any cause to use instruments, great care should be observed, and but very little force exerted. It has lately been recommended, when foreign bodies cannot be removed by syringing the ear, to introduce a small brush or swab of frayed linen or muslin cloth, or a bit of sponge, moistened with a solution of glue, and keep it in contact with the foreign body until the glue adheres, when the body may be easily removed.

Insects in the Ear.—Insects in the ear may be easily killed by pouring oil in the ear, after which remove by syringing. (See foreign bodies in ear.)

Clothing on Fire.—If a woman's clothes catch on fire, let her instantly roll herself over and over on the ground. In case any one be present, let them throw her down and do the like, and then wrap her up in a table-cloth, rug, coat, or the first woolen article that can be found.

Fractures.—As we can only give general rules for treating the various fractures, we would advise any one suffering from such to immediately apply to the nearest surgeon, and not rely upon an inexperienced party.

Frost-Bite.—Place the party suffering in a room without fire, and rub the frozen or frosted parts with snow, or pour ice-water over them until sensation begins to return. As soon as a stinging pain is felt, and a change of color appears, then cease the rubbing, and apply clothes wet with ice-water, and subsequently, if active inflammation follows and suppuration results, a solution of carbolic acid in water, one part to thirty, should be applied. If mortification sets in, amputation is generally necessary. Where persons suffer from the constitutional effects of cold, hot stimulants should be given internally, and the body rubbed briskly with the hands and warm flannel.

Poisons, Their Symptoms and Antidotes.—When a person has taken poison, the first thing to do is to compel the patient to vomit, and for that purpose give any emetic that can be most readily and quickly obtained, and which is prompt and energetic, but safe in its action. For this purpose there is, perhaps, nothing better than a large teaspoonful of ground mustard in a tumblerful of warm water, and it has the advantage of being almost always at hand. If the dry mustard is not to be had, use mixed mustard from the mustard pot. Its operation may generally be facilitated by the addition of a like quantity of common table salt. If the mustard is not at hand, give two or three teaspoonfuls of powdered alum in syrup or molasses, and give freely of warm water to drink; or give ten to twenty grains or sulphate of zinc (white vitriol), or twenty to thirty grains of ipecac, with one or two grains of tartar emetic, in a large cup of warm water, and repeat every ten minutes until three or four doses are given, unless free vomiting is sooner produced. After vomiting has taken place, large draughts of warm water should be given the patient, so that the vomiting will continue until the poisonous substances have been thoroughly evacuated, and then suitable antidotes should be given. If vomiting cannot be produced, the stomach-pump should be used. When it is known what particular kind of poison has been swallowed, then the proper antidote for that poison should be given, but when this cannot be ascertained, as is often the case, give freely of equal parts of calcined magnesia, pulverized charcoal, and sesquioxide of iron, in sufficient quantiy of water. This is a very harmless mixture, and is likely to be of great benefit, as the ingredients, though very simple, are antidotes for the most common and active poisons. In case this mixture cannot be obtained, the stomach should be soothed and protected by the free administration of demulcent, mucilaginous or oleaginous drinks, such as the whites of eggs, milk, mucilage of gum arabic, or slippery elm bark, flaxseed tea, starch, wheat, flour, or arrow-root mixed in water, linseed or olive oil, or melted butter or lard. Subsequently the bowels should be moved by some gentle laxative, as a tablespoonful or two of castor oil, or a teaspoonful of calcined magnesia; and pain or other evidence of inflammation must be relieved by the administration of a few drops of laudanum, and the repeated application of hot poultices, fomentations and mustard plasters. The following are the names of the articles that may give rise to poisoning, most commonly used, and their antidote:

Aconite — Monkshood, Wolfsbane.— Symptoms: Numbness and tingling in the mouth and throat, and afterwards in other portions of the body, with sore throat, pain over the stomach, and vomiting; dimness of vision, dizziness, great prostration, loss of sensibility and delirium. Treatment: An emetic and then brandy in tablespoonful doses, in ice-water, every half hour; spirits of ammonia in half teaspoonful doses in like manner; the cold douche over the head and chest, warmth to the extremities, etc.

Alkalies and Their Salts — Concentrated Lye, Woodash Lye, Caustic Potash, Ammonia, Hartshorn. — Symptoms: Caustic, acrid taste, excessive heat in the throat, stomach and intestines; vomiting of bloody matter, cold sweats, hiccough, purging of bloody stools.—Treatment: The common vegetable acids. Common vinegar being always at hand, is most frequently used. The fixed oils, as castor, flaxseed, almond and olive oils form soaps with the alkalies and thus also destroy their caustic effect. They should be given in large quantity.

Alcohol, Brandy, and Other Spirituous Liquors.—Symptoms: Confusion of thought, inability to walk or stand, dizziness, stupor, highly flushed or pale face, noisy breathing.—Treatment: After emptying the stomach, pour cold water on the head and back of the neck, rub or slap the wrists and palms, and the ankles and soles of the feet, and give strong, hot coffee, or aromatic spirits of hartshorn, in teaspoonful doses in water. The warmth of the body must be sustained.

Antimony, and Its Preparations. Tartar Emetic, Antimonial Wine, Kerme's Mineral.—Symptoms: Faintness and nausea, soon followed by painful and continued vomiting, severe diarrhœa, constriction and burning sensation in the throat, cramps, or spasmodic twitchings, with symptoms of nervous derangement, and great prostration of strength, often terminating in death.—Treatment: If vomiting has not been produced, it should be effected by tickling the fauces, and administering copious draughts of warm water. Astringent infusions, such as of gall, oak bark, Peruvian bark, act as antidotes, and should be given promptly. Powdered yellow bark may be used until the infusion is prepared, or very strong green tea should be given. To stop the vomiting, should it continue, blister over the stomach by applying a cloth wet with strong spirits of hartshorn, and then sprinkle on one-eighth to one-fourth of a grain of morphia.

Arsenic and Its Preparations. — Ratsbane, Fowler's Solution, etc.—Symptoms: Generally within an hour pain and heat are felt in the stomach, soon followed by vomiting; with a burning dryness of the throat and great thirst; the matters vomited are generally colored, either green yellow, or brownish, and sometimes bloody. Diarrhœa or dysentery ensues, while the pulse becomes small and rapid, yet irregular. Breathing much oppressed; difficulty in vomiting may occur, while cramps, convulsions, or even paralysis often precede death, which sometimes takes place within five or six hours after arsenic has been taken.—Treatment: Give a prompt emetic, and then hydrate of peroxide of iron (recently prepared) in tablespoonful doses every ten or fifteen minutes until the urgent symptoms are relieved. In the absence of this, or while it is being prepared, give large draughts of new milk and raw eggs, limewater and oil, melted butter, magnesia in a large quantity of water, or even if nothing else is at hand, flour and water, always, however, giving an emetic the first thing, or causing vomiting by tickling the throat with a feather, etc. The inflammation of the stomach which follows must be treated by blisters, hot fomentations, mucilaginous drinks, etc., etc.

Belladonna or Deadly Night Shade. — Symptoms: Dryness of the mouth and throat, great thirst, difficulty of swallowing, nausea, dimness, confusion or loss of vision, great enlargement of the pupils, dizziness, delirium and coma.—Treatment: There is no known antidote. Give a prompt emetic and then reliance must be placed on continual stimulation with brandy, whisky, etc., and to necessary artificial respiration. Opium and its preparations, as morphia, laudanum, etc., are thought by some to counteract the effect of belladonna, and may be given in small and repeated doses, as also strong black coffee and green tea.

Blue Vitriol, or Blue Stone.—See Copper.

Cantharides (Spanish or Blistering Fly) and Modern Potato Bug.—Symptoms: Sickening odor of the breath, sour taste, with burning heat in the throat, stomach, and bowels; frequent vomiting, often bloody; copious bloody stools, great pain in the stomach, with burning sensation in the bladder and difficulty to urinate, followed with terrible convulsions, delirium and death.—Treatment: Excite vomiting by drinking plentifully of sweet oil or other wholesome oils, sugar and water, milk, or slippery elm tea; give injections of castor oil and starch, or warm milk. The inflammatory symptoms which generally follow must be treated by a medical man. Camphorated oil or camphorated spirits should be rubbed over the bowels, stomach and thighs.

Caustic Potash.—See Alkalies.

Cobalt, or Fly-Powder.—Symptoms: Heat and pain in the throat and stomach, violent retching and vomiting, cold and clammy skin, small and feeble pulse, hurried and difficult breathing, diarrhœa, etc.—Treatment: An emetic, followed by the free administration of milk, eggs, wheat flour and water, and mucilaginous drinks.

Copper — Blue Vitriol, Verdigris or Pickles or Food Cooked in Foul Copper Vessels. — Symptoms: General inflammation of the alimentary canal, suppression of urine; hiccough, a disagreeable metallic taste, vomiting, violent colic, excessive thirst, sense of tightness of the throat, anxiety; faintness, giddiness, and cramps and convulsions generally precede death.—Treatment: Large doses of simple syrup as warm as can be swallowed, until the stomach rejects the amount it contains. The whites of eggs and large quantities of milk. Hydrated peroxide of iron.

Creosote.—Carbolic Acid.—Symptoms: Burning pain, acrid, pungent taste, thirst, vomiting, purging, etc.—Treatment: An emetic, and the free administration of albumen, as the whites of eggs, or in the absence of these, milk, or flour and water.

Corrosive Sublimate.—See Mercury.

Deadly Night-Shade.—See Belladonna.

Fox-Glove or Digitalis. — Symptoms: Loss of strength, feeble, fluttering pulse, faintness, nausea, and vomiting and stupor; cold perspiration, dilated pupils, sighing, irregular breathing, and sometimes convulsions.—Treatment: After vomiting, give brandy and ammonia in frequently repeated doses, apply warmth to the extremities, and if necessary resort to artificial respiration.

Gases — Carbonic Acid, Chlorine, Cyanogen, Hydrosulphuric Acid, etc. — Symptoms: Great drowsiness, difficult respiration, features swollen, face blue as in strangulation.—

Treatment: Artificial respiration, cold douche, frictions with stimulating substances to the surface of the body. Inhalation of steam containing preparations of ammonia. Cupping from nape of neck. Internal use of chloroform.

Green Vitriol.—See Iron.

Hellebore, or Indian Poke.—Symptoms: Violent vomiting and purging, bloody stools, great anxiety, tremors, vertigo, fainting, sinking of the pulse, cold sweats and convulsions.—Treatment: Excite speedy vomiting by large draughts of warm water, molasses and water, tickling the throat with the finger or a feather, and emetics; give oily and mucilaginous drinks, oily purgatives, and clysters, acids, strong coffee, camphor and opium.

Hemlock (Conium). — Symptoms: Dryness of the throat, tremors, dizziness, difficulty of swallowing, prostration and faintness, limbs powerless or paralyzed, pupils dilated, pulse rapid and feeble; insensibility and convulsions sometimes precede death.—Treatment: Empty the stomach and give brandy in tablespoonful doses, with half teaspoonful of spirits of ammonia, frequently repeated, and if much pain and vomiting, give bromide of ammonium in five-grain doses every half hour. Artificial respiration may be required.

Henbane or Hyoscyamus. — Symptoms: Muscular twitching, inability to articulate plainly, dimness of vision and stupor; later, vomiting and purging, small, intermittent pulse, convulsive movement of the extremities and coma. Treatment: Similar to Opium Poisoning, which see.

Iodine.—Symptoms: Burning pain in throat, lacerating pain in the stomach, fruitless effort to vomit, excessive tenderness of the epigastrium. Treatment: Free emesis, prompt administration of starch, wheat flour, or arrow-root, beat up in water.

Lead — Acetate of Lead, Sugar of Lead, Dry White Lead, Red Lead, Litharge, or Pickles, Wine, or Vinegar, Sweetened by Lead.—Symptoms: When taken in large doses, a sweet but astringent metallic taste exists, with constriction in the throat, pain in the region of the stomach, painful, obstinate, and frequently bloody vomitings, hiccough, convulsions or spasms, and death. When taken in small but long-continued doses, it produces colic, called painter's colic; great pain, obstinate constipation, and in extreme cases paralytic symptoms, especially wrist-drop, with a blue line along the edge of the gums. Treatment: To counteract the poison, give alum in water, one and a half ounce to a quart; or, better still, Epsom salts or Glauber salts, an ounce of either in a quart of water; or dilute sulphuric acid, a teaspoonful to a quart of water. If a large quantity of sugar of lead has been recently taken, empty the stomach by an emetic of sulphate of zinc (one drachm in a quart of water), giving one-fourth to commence, and repeating smaller doses until free vomiting is produced; castor oil should be given to clear the bowels, and injections of oil and starch freely administered. If the body is cold, use the warm bath.

Meadow Saffron.—See Belladonna.

Laudanum.—See Opium.

Lunar Caustic.—See Silver.

Lobelia.—Indian Poke.—Symptoms: Excessive vomiting and purging, pains in the bowels, contraction of the pupils, delirium, coma, and convulsions. Treatment: Mustard over the stomach, and brandy and ammonia.

Mercury. — Corrosive Sublimate (bug poisons frequently contain this poison), **Red Precipitate, Chinese or English Vermillion.**—Symptoms: Acrid, metallic taste in the mouth, immediate constriction and burning in the throat, with anxiety and tearing pains in both stomach and bowels, sickness, and vomiting of various colored fluids, and sometimes bloody and profuse diarrhœa, with difficulty and pain in urinating; pulse quick, small and hard; faint sensations, great debility, difficult breathing, cramps, cold sweats, syncope and convulsions. Treatment: If vomiting does not already exist, emetics must be given immediately—albumen of eggs in continuous large doses, and infusion of catechu afterwards, sweet milk, mixtures of flour and water in successive cupfuls, and to check excessive salivation put a half ounce of chlorate of potash in a tumbler of water, and use freely as a gargle, and swallow a tablespoonful every hour or two.

Monkshood.—See Aconite

Morphine.—See Opium.

Nitrate of Silver (Lunar Caustic).—Symptoms: Intense pain and vomiting and purging of blood; mucus and shreds of mucus membranes; and if these stand they become dark. Treatment: Give freely of a solution of common salt in water, which decomposes the poison, and afterwards flaxseed or elm bark tea, and after a while a dose of castor oil.

Nux Vomica.—See Strychnine.

Opium and all its Preparations — Morphine, Laudanum, Paragoric, Etc.—Symptoms: Giddiness, drowsiness, increasing to stupor, and insensibility; pulse usually, at first, quick and irregular, and breathing hurried, and afterwards pulse slow and feeble, and respiration slow and noisy; the pupils are contracted and the eyes and face congested, and later, as death approaches, the extremities become cold, the surface is covered with cold, clammy perspiration, and the sphincters relax. The effects of opium and its preparations, in poisonous doses, appear in from a half to two hours from its administration. Treatment: Empty the stomach immediately with an emetic or with the stomach pump. Then give very strong coffee without milk; put mustard plasters on the wrist and ankles; use the cold douche to the head and chest, and if the patient is cold and sinking give brandy, or whisky and ammonia. Belladonna is thought by many to counteract the poisonous effects of opium, and may be given in doses of half to a teaspoonful of the tincture, or two grains of the extract, every twenty minutes, until some effect is observed in causing the pupils to expand. Use warmth and friction, and if possible prevent sleep for some hours, for which purpose the patient should be walked about between two persons, and if necessary a bunch of switches may be freely used. Finally, as a last resort, use artificial respiration, and a persistence in it will sometimes be rewarded with success in apparently hopeless cases. Galvanism should also be tried.

Oxalic Acid.—See Acids.

Phosphorus — Found in Lucifer Matches and Some Rat Poisons.—Symptoms: Symptoms of irritant poisoning; pain in the stomach and bowels; vomiting; diarrhœa; tenderness and tension of the abdomen. Treatment: An emetic is to be promptly given; copious draughts containing magnesia in suspension; mucilaginous drinks. General treatment for inflammatory symptoms.

Poisonous Fish.—Symptoms: In an hour or two—often in much shorter time—after the fish has been eaten, a weight at the stomach comes on, with slight vertigo and headache; sense of heat about the head and eyes; considerable thirst, and often an eruption of the skin. Treatment: After full vomiting, an active purgative should be given to remove any of the noxious matter from the intestines. Vinegar and water may be drunk after the above remedies have operated, and the body may be sponged with the same. Water made very sweet with sugar, with aromatic spirits of ammonia added, may be drunk freely as a corrective. A solution of cholorate of potash, or of alkali, the latter weak, may be given to obviate the effect of the poison. If spasms ensue after evacuation, laudanum in considerable doses is necessary. If inflammation should occur, combat in the usual way.

Poisonous Mushrooms.— Symptoms: Nausea, heat and pains in the stomach and bowels; vomiting and purging, thirst, convulsions and faintings, pulse small and frequent, dilated pupil and stupor, cold sweats and death.

Treatment: The stomach and bowels are to be cleared by an emetic of ground mustard or sulphate of zinc, followed by frequent doses of Glauber or Epsom salts, and large stimulating clysters. After the poison is evacuated, either may be given with small quantities of brandy and water. But if inflammatory symptoms manifest themselves, such stimuli should be avoided, and these symptoms appropriately treated.

Potash.—See Alkali.

Prussic Acid, Hydrocyanic.—See Acids.

Poison Ivy. — Symptoms: Contact with, and with many persons the near approach to the vine, gives rise to violent erysipelatous inflammation, especially of the face and hands, attended with itching, redness, burning and swelling, with watery blisters.

Treatment: Give saline laxatives, and apply weak lead and laudanum, or limewater and sweet oil, or bathe the parts freely with spirits of nitre. Anointing with oil will prevent poisoning from it.

Saltpetre, Nitrate of Potash. — Symptoms. Only poisonous in large quantities, and then causes nausea, painful vomiting, purging, convulsions, faintness, feeble pulse, cold feet and hands, with tearing pains in stomach and bowels.

Treatment: Treat just as is directed for arsenic, for there is no antidote known, and emptying the stomach and bowels with mild drinks must be relied on.

Savine.—Symptoms: Sharp pains in the bowels, hot skin, rapid pulse, violent vomiting and sometimes purging, with great prostration. Treatment: Mustard and hot fomentations over the stomach and bowels, and ice only allowed in the stomach until the inflammation ceases. If prostration comes on, food and stimulants must be given by injection.

Stramonium, Thorn-apple or Jamestown Weed. — Symptoms: Vertigo, headache, perversion of vision, slight delirium, sense of suffocation, disposition to sleep, bowels relaxed and all secretions augmented. Treatment: Same as Belladonna.

Tin — Chloride of Tin, Solution of Tin (Used by Dyers), Oxide of Tin or Putty Powder. — Symptoms: Vomiting, pains in the stomach, anxiety, restlessness, frequent pulse, delirium, etc. Treatment: Empty the stomach, and give whites of eggs in water, milk in large quantities, or flour beaten up in water, with magnesia or chalk.

Tartar Emetic.—See Antimony.

Tobacco.—Symptoms: Vertigo, stupor, fainting, nausea, vomiting, sudden nervous debility, cold sweat, tremors, and at times fatal prostration. Treatment: After the stomach is empty, apply mustard to the abdomen and to the extremities, and give strong coffee, with brandy and other stimulants, with warmth to the extremities.

Woorara.—Symptoms: When taken into the stomach it is inert; when absorbed through a wound it causes sudden stupor and insensibility, frothing at the mouth and speedy death. Treatment: Suck the wound immediately, or cut it out and tie a cord around the limb between the wound and the heart. Apply iodine, or iodide of potassium, and give it internally, and try artificial respiration.

Scalds.—See Burns and Scalds.

Sprains.—The portions most frequently implicated are the wrist and ankle; no matter which portion it may be, however, rest and quietness is a very important part of the treatment, and, when possible, in an elevated position. If the wrist is sprained it should be carried in a sling; if the ankle, it should be supported on a couch or stool. Cold lotions (see Bruises) should be freely applied, and irrigation by pouring water from a pitcher or tea-kettle resorted to several times a day to prevent inflammation. Later, frictions with opodeldoc, or with some stimulating liniment, and supporting the parts by pressure made with a flannel roller, or laced stocking when the ankle is involved, will be useful to restore tone; or strips of adhesive plaster properly applied will be useful for the same purpose. Recovery from severe sprains is always tedious. It is an old saying "that a bad sprain is worse than a broken bone."

Stings of Bees and Wasps.— See Bites and Stings.

Suffocation from Noxious Gases, Foul Air, Fire Damp, Etc.—Remove to fresh air and dash cold water over the head, neck and chest; carefully apply hartshorn, or smelling salts to the nostrils, and when the breathing is feeble or has ceased, resort immediately to artificial respiration (see Asphyxia and Drowning). Keep up the warmth of the body, and as soon as the patient can swallow give stimulants in small quantities.

GLOSSARY OF MEDICAL TERMS

A

Ab-dō'men—The lower front part of the body.
Ab-nor'mal—Unnatural; unhealthy.
A-bor'tion—A premature birth; a miscarriage.
A-brāde'—To rub, or scrape off, as the skin.
A-brā'sion—The act of rubbing off.
Ab'scess—A cavity containing pus.
Ab-sin'thi-um—The plant wormwood.
Ab-sorp'tion—The act of sucking up.
A-cā'cia—Gum-arabic.
Ac-couche'ment (a-koosh'ment)—Delivery in child-bed; confinement.
Ac-cou-cheur' (a-koo-shur')—A professional assistant at childbirth.
A-cet'ic—Sour; having the properties of vinegar.
A-cet'ic ac'id—Vinegar.
A-cē'tum opii—Vinegar of opium.
A-cē'tum scillæ—Vinegar of squills.
Ac'id—Any sour substance; neutralizes alkalies.
A-cid'i-ty—Sourness.
Ac'i-dum car-bol'i-cum—Carbolic acid.
Ac'o-nite—The monk's hood; wolf's-bane; a medicinal plant.
Ac-o-nī'tum—Latin for aconite.
Ac'rid—Biting; irritating, as acid.
A-cute'—Sharp, as *acute* pain; a disease of short duration.
A-dapt'ive—Capable of being made suitable.
Ad'eps—Lard; fats.
Ad-i-pose'—Consisting of fat; fatty.
Ad-jā'cent—Lying near to; adjoining.
Ad-o-les'cence—The age between childhood and manhood.
A-dult'—A person of full age.
Af-fū'sion—The act of pouring water upon the whole body as a remedy.
A'gent—The active cause of a medical drug.
Al'ba—White.
Al-bū'men—An animal or vegetable food of which the white of an egg is a good example.
Al-bū'min-ous—Containing albumen.
Al-bū-mi-nū'ri-a—The presence of albumen in the urine.
Al'i-ment—Any kind of food.
Al-i-ment'a-ry ca-nal'—The whole digestive system through which the food passes until it reaches the blood.

Al'ka-li—Any caustic base which neutralizes an acid, as soda.
Al'li-um—Onion or garlic.
Al'ter-a-tive—A medicine which gradually restores healthy action.
Al'um—An astringent mineral acid-salt.
A-lū'men—Latin for alum.
A-mē'li-o-rate—To make better; to make less, as pain.
A-mē'na-ble—Yielding to.
A-men-or-rhē'a—Suppression or absence of the menses.
A-mor'phous—Irregular; abnormal; exceptional.
Am'y-lum—Latin for starch.
A-nat'o-my—The physical structure of any living body.
A-nē'mi-a—Deficiency of blood, or of the red corpuscles in the blood.
An-es-thet'ic—Medicines depriving one of sensation and suffering.
An'eu-rism—A soft, pulsating tumor caused by the enlargement or rupture of an artery.
An-i-mal'cule—A very small animal; usually so small as to be invisible to the naked eye.
An'o-dyne—A medicine that relieves pain, as an opiate.
Ant-ac'id—A remedy to remove acidity of the stomach and the like.
An-tag-o-nis'tic—Counteracting; opposite to.
An'te- —A prefix meaning *before.*
An-te-nā'tal—Before birth.
An-tē'ri-or—Situated in front of.
An'ti- —A prefix meaning *opposed to* or *opposite of.*
An'ti-dōte—A medicine counteracting poison.
An-ti-e-met'ic—That which will stop vomiting.
An-ti-sep'tic—Anything that prevents, retards or stops putrefaction.
An-ti-spas-mod'ics—Medicines that prevent or tend to prevent cramps.
An-ti-syph-i-lit'ic—A remedy supposed to cure syphilis.
A'nus—The circular opening or outlet of the bowels.
A-or'ta—The great artery of the heart.
A-pē'ri-ent—A laxative; a gentle purgative medicine.
Ap'er-ture—An opening.
A'pex—The point of anything.
A-phō'ni-a—Loss of voice.
Aph'tha—Infants' sore mouth; white ulcers in mouth.
Ap'o-plex-y—Sudden loss of sensation; stroke of paralysis.
Ap'pe-tite—Any physical craving.
A'qua—Latin for water.
A'qua am-mō'ni-æ—Water of ammonia.
A'qua dis-til'la-ta—Distilled water.
A-rē'o-la—The circle around the nipple.
Ar'ni-ca—A tincture made from the arnica plant.
Ar-o-mat'ic—Spicy and fragrant drugs.
Ar-tic'u-lāt-ed—Jointed.

As'pect—Appearance; looks, as of a sore.
As-pid'i-um—Latin for shielded ferns.
As-sim-i-lā'tion—The conversion of food by digestion into building material for the body.
As-trin'gent—That which causes contraction, or drawing together; puckering; oppositive of laxative.
At'a-vism—A tendency to return to any ancestral deformity or disease after its having disappeared for one or more generations.
At'las—The first bone of the spinal column, upon which the head rests.
At'o-ny—Want of tone; weakness.
At'ro-phy—A wasting away from defect of nourishment.
Au'di-tory—Of or pertaining to hearing.
Au'ri-cle—The external ear; a cavity of the heart.
Aux-il'i-a-ry—That which lends assistance to.
Ax-il'la—The armpit.
Ax'is—The second bone in the spine; the place of branching.

B

Bac-tē'ri-a—Minute organisms. While most are harmless, some cause disease and are the cause of putrefaction.
Balm—An aromatic and fragrant medicine; usually an ointment.
Bal'sam—A resinous substance from a tree, and possessing healing properties.
Bel-la-don'na—Deadly nightshade; a poisonous plant.
Bel-la-don'na flō'ra—Belladonna leaves.
Be-nign' (-nīn)—Favorable to health.
Bī'ceps—Two-headed; the name of the two arm-muscles.
Bī-cus'pid—Two-pointed, as a tooth.
Bile—A secretion from the liver.
Bil'ious—Too much bile in the blood.
Bō'lus—A large pill.
Bron'chi-a (brong'ki-a)—Branches of the wind-pipe.
Bron-chī'tis (brong-kī'tis)—Inflammation of the bronchial tubes.
Bu'bō—Inflammation of a lymph-gland; a venereal tumor.
Buc'cal—Of or pertaining to the mouth.
Bun'yon or bun'ion—An inflamed swelling of the joint at the base of the great toe.
Bur'row-ing—The working or lodging of pus between the muscles.

C

Cal-cā're-ous—Pertaining to stone, as found in the bladder, gall-ducts or kidneys.
Cal'ces—Lime.
Cal'cu-lus—A stone as found in the bladder, gall-ducts and kidneys.
Cal'i-ber—The size of any tube.
Cal'lous—A hard, bony growth.

Cal'lus—New bony tissue thrown out between the fractured ends of a broken bone.
Cam'pho-ra—Latin for camphor.
Can'na-bis in'di-ca—Indian hemp.
Can-thar'i-des—Spanish flies.
Cap'il-lā-ries—Hair-like vessels that convey the blood from the arteries to the veins.
Cap'si-cum—Cayenne pepper.
Cap'sule—A hollow case into which unpleasant medicine is placed.
Carbo ligni—Charcoal.
Car-bon'ic ac'id—A gas expelled from the lungs when breathing.
Car-bon'ic di-ox'īde—Same as carbonic acid, but a more proper term.
Car'di-ac—Relating to the heart.
Car-dī'tis—Inflammation of the heart.
Car-min'a-tive—A remedy for flatulence; warming stimulant.
Car'pus—The wrist.
Car'til-age—A smooth, light, elastic substance, less firm than bone.
Cā'rum—Caraway.
Cas-tā'ni-a—Chestnut.
Cas'trate—To remove the sexual germ-bearing glands from an animal.
Cat'a-lep-sy—A condition resembling death.
Cat'a-plasm—A poultice.
Ca-tarrh' (ka-tar')—An unusual flow of the secretion of the mucous membrane caused by inflammation of that membrane.
Ca-thar'tic—An active purgative.
Cath'e-ter—A small flexible tube used to empty the bladder.
Caus'tic—A corroding or destroying substance.
Cau'ter-ize—To burn a diseased part out by some caustic substance.
Cel'lu-lar—Composed of cells.
Cel'lu-lar tis'sue—The main tissues of the body.
Ceph-al'ic—Of or pertaining to, on, in, near the head.
Ce'ra—Wax.
Cer-e-bel'lum—The little or hinder brain.
Cer'e-bral—Pertaining to the brain.
Cer'e-brō-spī-nal—Belonging to the brain and spine.
Cer'e-brum—The upper and front part of the brain.
Ce-ru'men—Ear wax.
Cer'vix—The neck; the back part of the neck.
Ce-trā'ri-a—Iceland moss.
Chan'cre (shang'ker)—A primary syphilitic sore.
Chan'croid (shang'kroid)—A venereal sore resembling a chancre
Char-ac-ter-is'tic—A distinctive feature of anything.
Chas'ti-ty—Sexual or moral purity; continence.
Chron'ic—Of long standing.

Cir-cum-ci'sion—The act of cutting off the prepuce of the male child.
Clav'i-cle—The collar-bone.
Cli-mac'ter-ic—Certain periods of marked change in man's or in woman's physical constitution.
Cō-ag'u-late—A change from a liquid to a semi-solid state, as blood to clot.
Cō-i'tion—Sexual intercourse.
Col-lapse'—A sudden failing of the vital powers.
Cō'lon—The larger part of the intestines.
Cō'ma—A profound, but unnatural sleep; lethargy; stupor.
Com-pli-cā'tion—One disease existing together with and modifying another malady.
Con-cep'tion—The beginning of a new life; the union of an ovum and a spermatozoon in the womb.
Con-crē'tion—A mass formed by the growing together of material.
Con'di-ment—That which gives relish to food.
Con-fīne'ment—A woman's giving birth to a child.
Con'flu-ent—Flowing together so as to form one, as smallpox pustules.
Con-ges'tion—Over-fulness of blood-vessels; a stopping of the proper flow of blood in the body.
Con-junc-tī'va—The external coating of eyeball.
Con-san-guin'i-ty—Blood relationship.
Con-sol-i-dā'tion—The uniting of injured parts of the body.
Con-sti-pā'tion—Costiveness; unnatural slowness in bowel movements.
Con-stric'tion—Contraction; shrinking; squeezing; puckering.
Con-tā'gious—Disease that may be transmitted only by ***contact.***
Con'ti-nent—Chaste; temperate; restraining the sexual powers.
Con-trac'tile—Having the power of shrinking.
Con-tū'sion—A bruise.
Con-va-les'cence—In a state of recovery; improving in health.
Con-vō-lū'tions—The state of being curved or rolled together, as the outer surface of the brain.
Co-or'di-nate—All parts of the body acting in harmony.
Cop-u-lā'tion—The union of the sexes in the generative act; coition.
Cor'ne-a—The transparent portion of the eye.
Cor-rō'sive—Eating away; gradually consuming.
Cor'tex—A peel, as a lemon peel.
Cor-ȳ'za—Nasal catarrh.
Coun'ter-ir'ri-tant—That which produces an irritation in one part of the body to relieve an irritation in another part.
Crā'ni-um—The skull.
Crī'sis—The change of a disease which indicates recovery or death.
Crō'cus—Latin for saffron.
Cu'pri sul'phas—Latin for copper sulphate.
Cū'ti-cle—The outer skin.

Cyst—Any membranous sac; any abnormal sac in which abnormal matter may be collected or retained.

D

De-coc'tion—A preparation of medicine made by boiling in water.
De-com-po-si'tion—Decay; rot.
Def-e-cā'tion—The act of going to stool.
De-gen-e-rā'tion—Becoming worse in quality or condition.
Deg-lu-ti'tion—The act of swallowing.
Del-e-tē'ri-ous—Destructive; pernicious; injurious.
De-li'ri-um—Temporary insanity.
De-men'ti-a—Idiocy.
De-mul'cent—Soothing; bland; any application soothing to an irritated surface.
Den'ti-frice—A preparation to cleanse the teeth.
Den-ti'tion—The time or process of cutting the first teeth.
De-nūde'—To strip the covering from; to make naked.
De-ple'tion—Diminishing the fulness of a part, as by bleeding.
Der'ma—The skin.
Des-qua-mā'tion—A scaling off, as the cuticle in flakes.
De-ter'gents—Medicines used to cleanse the vessels or skin from offending matter.
Di-ag-nō'sis—The art of ascertaining diseases.
Di-a-phō-ret'ic—Medicine that causes or aids perspiration.
Di'a-phragm (di'a-fram)—The breathing muscles between the thoracic and abdominal cavities.
Di-ar-rhe'a (-rē')—Looseness of the bowels.
Di-ath'e-sis—A predisposition to certain forms of diseases, as gouty *diathesis*.
Di'et—Proper food for certain conditions.
Dī'et-ā-ry—Pertaining to diet.
Dī-e-tet'ics—Relating to diet for the sick.
Dīf-fūse'—Of undefined limits, as a spreading of inflammation.
Di-lāte'—To spread out; to open; to widen.
Dil'ū-ent—Any medicine that thins the blood.
Di-lūte'—To weaken with water.
Diph-thē'ri-a—An acute, malignant, infectious disease of the throat.
Dis-in-fect'ant—A substance to destroy the germs of infectious diseases.
Dis-in-te-grā'tion—Separation into parts.
Dis-per'sion—The removal of inflammation from a part of the body, as by scattering or by absorption.
Di-u-ret'ic—Causing increased discharge of urine.
Dor'sal—Pertaining to the back.
Douche (doosh)—A jet or current of water against some part of the body, as in a bath; also the instrument.
Drachm (dram)—Sixty grains; sixty drops; a teaspoonful.
Dras'tic—Acting vigorously.

Ducts—Tubes or canals for the conveyance of the fluids of the body.
Dul-ca-mā'ra—Latin for bittersweet, or woody nightshade.
Du-o-dē'num—The first portion of the small intestines.
Dys-men-or-rhe'a (-rē')—Painful menstruation.
Dys-pep'si-a—Difficult and painful digestion, usually chronic.

E

Ef-fer-vesce' (-ves')—To bubble up; to foam.
Ef-fēte'—Worn out; exhausted, as decayed matter.
Ef-flō-res'cence—An eruption of the skin; a rash.
Ef-flu'vi-um—An invisible, subtle, noxious, ill-smelling exhalation from decaying matter, as from disease.
Ef-fū'sion—The pouring out of the blood or other fluid from its proper vessel into the tissues.
E-lim'i-nate—To separate and cast aside, as to eliminate waste matter.
El-ix'ir—Any cordial or invigorator.
E-mā'ci-ate—To become lean; to waste away in flesh.
Em'bry-o—The young in the womb.
E-met'ic—Vomit-producing medicine.
E-mis'sion—The act of putting out or sending forth; a throwing off or out.
Em-men'a-gogue—A remedy which promotes the menstrual flow.
E-mol'li-ent—A softening or relaxing; soothing.
Em-plas'tic (*or* -trum)—Adapted for use as a plaster in medicine.
E-mul'sion—A liquid mixture in which a fatty substance is suspended in minute globules.
En-am'el—The outer hard covering of the teeth.
En-ceinte (ŏng-sangt')—With child; pregnant.
En-cyst'ed—Enclosed in a membranous sac or cyst, as an *encysted* tumor.
En-dem'ic—Said of diseases confined to a certain district.
En'e-ma—An injection into the rectum.
En-gorg'ed—Filled with blood to excess; congestion.
En-nui' (ăng-wē')—Dulness of spirit; listless; lassitude.
En-ter-ī'tis—Inflammation of the intestines.
En-vī'ron-ment—All the external circumstances surrounding a person.
Ep-i-dem'ic—A widespread occurrence of a disease in a certain region, as an *epidemic* of smallpox.
Ep-i-der'mis—The outer skin of the body; the cuticle.
Ep-i-gas'tri-um—In the region over the stomach.
Ep-i-glot'tis—The valve at the base of the tongue, which guards the opening into the trachea.
Ep'i-lep-sy—A chronic nervous disease, resulting many times in convulsions.
Ep-i-stax'is—The nose-bleed.
Ep-i-thē'li-ate—To become covered with epithelium, as a wound when beginning to heal.

Ep-i-thē'li-um—The thin skin which covers the red parts of the outer body, as the lips, and the mucous membrane of the alimentary canal.
E-rad'i-cate—To root out; to destroy the cause of a disease.
E-rec'tile—Capable of expansion and of becoming firm.
Er'got—Smut of rye; used medicinally.
E-rō'sion—Eating away of the bodily substance by corrosive agents.
E-ruc-tā'tion—The act of belching or throwing off wind from the stomach.
E-rup'tion—Pimples or blotches on the skin or pustules from smallpox.
Es-cha-rot'ic—An agent capable of destroying living tissue (flesh) and forming an eschar.
Ē'ther—A liquid used as an anesthetic.
Eth'moid—Sieve-like; the name of one of the bones at the base of the brain.
Eū'nuch—A man whose testes have been removed.
Eu-pa-tō'ri-um—Boneset; thorough wort.
Eū-stā'chi-an tube—A tube leading from behind the soft palate to the inner ear.
E-vac-u-ā'tion—The act of discharging by stool.
Ex-ac-er-bā'tion—A marked increase in disease.
Ex-an-thē'ma—A rash or eruption on the skin, as in measles, etc.
Ex-cis'ion—A cutting out or cutting off any part of the body.
Ex-co-ri-ā'tion—A chafing of the skin.
Ex-cres'cence—An unnatural, disfiguring growth on the body, as a wart.
Ex-crē'ta—All refuse or useless matter thrown off the body.
Ex-crē'tion—That which is thrown off from the body, as sweat, urine and the like.
Ex-pec'to-rant—A medicine used in promoting expectoration.
Ex-pec-tō-rā'tion—The act of spitting, as from the throat, lungs and the like.
Ex-pi-rā'tion—Breathing *out*, or expelling the air from the lungs.
Ex-ter'nal—The outside.
Ex-trav'a-sāte—To suffer fluids of the body to escape from the proper vessels to the surrounding parts.
Ex-trem'i-ties—Applied to the arms and legs of a person.
Ex-ūde'—To ooze out or flow slowly.

F

Fal-lō'pi-an tubes—Tubes from the ovaries to the uterus.
Fa-rī'na—Meal or flour made from vegetables, as potatoes.
Far-i-nā'ceous—Mealy; starchy; partaking of the nature of grain.
Fau'ces—The upper part of the throat.
Feb'ri-fūge—Any successful fever medicine.
Feb'rile—Pertaining to fever.
Fē'ces—Natural discharge from the bowels.
Fē-cun'dāte—To make fruitful; to impregnate.

Fel'on—A deep abscess on the finger.
Fem'ō-ral—Relating to the thigh.
Fē'mur—The thigh-bone.
Fen-ic'u-lum—Fennel, a flower, or plant.
Fer-ment'—To effervesce; to work, as beer, wine or cider.
Fer'ment—A substance that will produce fermentation.
Fer-ri sul-phas—Sulphate of iron.
Fer'rum—Iron.
Fē'tal—Pertaining to the child in the womb.
Fet'id—Having an offensive smell.
Fē'tus—The child in the womb.
Fī'ber—A thread-like substance in the animal or vegetable tissue.
Fī'brin—A fibrous tissue in the blood; readily found when blood coagulates.
Fil'a-ment—A thread-like structure of the body.
Fis'tū-la—An unnatural opening into a natural canal or hollow organ; a canal caused by diseased action of the body.
Flac'cid (flak'sid)—Lacking firmness; soft; flabby.
Flat'u-lence—Gas in the stomach or bowels.
Flood'ing—To bleed copiously after child-birth.
Flū'or al'bus—Leucorrhea; whites.
Flux—Diarrhea; an unnatural flow of some fluid from the body.
Fol'li-cle—A very small cavity, sac or tube in man and other animals.
Fō-men-tā'tion—A hot application to the body to relieve pain.
Form'u-la—A medical prescription.
Fran'gu-la—The bark of the alderbuck thorn, used medicinally as a purgative.
Frī'a-ble—Easily crumbled, as bread.
Fric'tion—Rubbing the body with the hand or something else to produce heat and life.
Fron'tal—In front, as the forehead.
Fū'mi-gate—To smoke a room or any article needing to be disinfected.
Func'tion—The natural office, duty or action of any organ of the body.
Fun'gus—Proud flesh; spongy flesh in wounds.
Fū'sion—To melt and flow together.

G

Gall—Bile; a secretion from the liver.
Gall-blad'der—A sac which receives the gall from the liver.
Gall-stone—A biliary secretion found in the gall-bladder or ducts.
Gan̲'gli-on—In anatomy, a collection of nerves or lymphatics; in pathology, a hard, indolent, encysted tumor.
Gan̲'grene—The first stages of mortification; beginning of decay.
Gar'gle—A liquid preparation for washing the throat.
Gas'e-ous—Having the nature and form of gas.
Gas'tric—Belonging to the stomach.
Gas'tric juice—The digestive secretions of the stomach.

Gas-trī'tis—Inflammation of stomach
Ge-lat'i-nous—Like jelly.
Gen'i-tals—The sexual organs.
Gē'nus—A group or class in nature.
Germ—The vital principle of life; the origin of a new life.
Ges-tā'tion—Period of growth of the child in the womb; pregnancy.
Glands—Organs whose work is to take from the blood such substances as are necessary to use in the system.
Gleet—A slimy, mucous discharge following gonorrheal inflammation; a chronic discharge from any membrane.
Glos-sī'tis—Inflammation of the tongue.
Glot'tis—The opening at the top of the wind-pipe.
Glut'ton—One who eats excessively.
Gon-o-coc'cus (*pl.* -ci)—A microbe found in gonorrheal discharges.
Gon-or-rhē'a—A venereal disease.
Gout—Inflammation of the joints.
Gran'a-tum—Logwood.
Gran-ū-lā'tions—Development of small, grain-like fleshy masses to fill the cavity and unite the sides in the healing of wounds and ulcers.
Grav'el—A disease which causes the formation of calculi, or stone-like substance in the liver or bladder.
Grīp'ing—Severe pain in the bowels.
Gus'ta-tory—Pertaining to the taste.

H

Hal-lū-ci-nā'tion—A delusion; an impression not real.
Ham-a-mē'lis—Witch-hazel.
Hec'tic—A form of fever; the bright pink spot which appears on the cheek in hectic fever.
He-de-o'ma—Pennyroyal.
Hē'ma—Greek for blood; a combining form in the structure of words.
Hem-a-tem'e-sis—Vomiting blood; gastric hemorrhage.
Hem-a-tū'ri-a—Hemorrhage from the bladder or urinary passages.
Hem-op'ty-sis—The spitting of blood; hemorrhage of the lungs.
Hem'or-rhage—A discharge of blood.
Hem'or-rhoids—Piles; tumors in and about the anus.
Hen'bane—A poisonous plant, especially to domestic fowls.
He-pat'ic—Of or pertaining to the liver.
He-red'i-tā-ry—Transmission of physical or mental peculiarities, qualities, diseases from parent to offspring.
Her'ni-a—A rupture which permits a part of the bowels to protrude.
Her'pes—A disease of the skin; tetter.
Hom'i-ci-dal—Relating or tending to homicide, or the killing of another.
Hū'mer-us—The largest bone in the arm.

Hū-mid'i-ty—Moisture.
Hū'mors—The fluids of the body (not including the blood), as the serous *humor* and the like.
Hȳ'dra-gogue—Medicines which remove water from the system; said of cathartics which produce large watery stools.
Hȳ-dras'tis—Golden seal, a plant.
Hȳ-drō-cy-an'ic ac'id—Prussic acid, a virulent poison.
Hȳ'gi-ēne—The art of preserving health.
Hȳ'men—A membrane situated near the opening of vagina in virgins.
Hȳ-os-cy'a-mus—Henbane, a plant of the nightshade family; poisonous.
Hȳ-per-ē'mi-a—Excess of blood in any part of the body.
Hȳ-pō-der'mic—Under the skin; a method of giving medicine.
Hys-ter'ics—Hysteria; a nervous affection marked by alternate fits of laughter and crying, with a choking sensation in the throat.
Hys-ter-ī'tis—Inflammation of the womb.

I

Ic'ter-us—Jaundice; a bilious disease.
Id'i-o-cy—The state of mental unsoundness; absence of intelligence.
Id-i-op'a-thy—A primary disease; a disease caused by any other.
Ich-thy-o-col'la—Fish-glue; isinglass.
Il'e-um—The lower part of the small intestines.
Il'e-ac—Pertaining to the ileum.
Im'be-cile—One having a feeble or undeveloped mind; half-witted.
Im-bībe'—To drink; to absorb.
Im-mō'bile—That which can not be moved, as a stiff joint.
Im-mūne'—Exempt from disease, as one is *immune* from small-pox by vaccination.
Im-paired'—Made weak, as one's vigor is *impaired* by disease.
Im-per'for-āte—Without pores, openings or orifices; not perforated.
Im-per'vi-ous—Not admitting of entrance, as glass is *impervious* to water.
Im'pō-tence—Sterility; inability to bear children.
Im-preg-nā'tion—The state of being with child; the act of conceiving.
In-ci'sion—The cutting into, as with an instrument.
In-con'ti-nence—Inability to hold the natural excretions, as the urine; unchastity; lack of proper sexual restraint.
In-cū-bā'tion—The hatching of eggs; time between exposure to disease and its development.
In'do-lent—Slow in progress, as applied to ulcers and tumors and the like.
In-du-rā'tion—Hardening of any part of the system by disease.
In-fec'tious—That which can be communicated from one person to another by contact or through the medium of the air, as an *infectious* disease.

In-fē'ri-or—Lower in position or place.
In-fil-trā'tion—A diffusion of morbid matter in a tissue of the body from outside sources.
In-firm'a-ry—A place for the reception and treatment of the sick.
In-flam-mā'tion—A disease attended with heat, redness, swelling and tenderness, caused by too much blood in the affected parts.
In-flā'tus—A collection of wind or gas, as in the stomach or bowels.
In-flu-en'za—A disease of a catarrhal nature, attended by fever and irritation.
In-fū'sion—Medicine prepared by steeping in water without boiling.
In-fu-sō'ri-a—Microscopic animals found in water and other fluids.
In-grē'di-ent—One article in a compounded mixture of medicine.
In-ha-lā'tion—Drawing in, as in breathing.
In-jec'tion—Any preparation thrown into the rectum or other cavity by means of a syringe.
In-oc'u-lāte—To communicate disease to a person by means of infectious matter, as to *inoculate* against smallpox.
In-san'i-ty—A persistent derangement of the mind caused by a disease of the brain.
In-sol'ū-ble—Not capable of being dissolved.
In-som'ni-a—Sleeplessness.
In-spi-rā'tion—A breathing *into*, as of the lungs.
In-teg'ri-ty—Soundness; unimpaired; unbroken; complete.
In-ter-cos'tal—Lying between the ribs.
In-ter-mis'sion—An interval between the paroxysms of a disease.
In-ter-mit'tent—Having periods of rest, as in *intermittent* fever.
In'ter-stice—Empty space between parts of a body closely set together.
In-tes'tines—The alimentary canal below the stomach; bowels; guts.
In'tra-u'ter-ine—Inside of the womb.
In-ver'sion—Turning inside out.
In-ver'si-o u'ter-i—Inversion of the womb or uterus.
In-vest'—To surround with a covering.
In-vol'un-tāry—Without the action of the will.
I-o'dum—Iodine.
Ip″e-cac″u-an'ha—Ipecac.
Ir-re-dū'ci-ble—Applied to hernia and to joints which have been out and can not be put back to their places.
Is-chū'ri-a—Retention of or great difficulty in passing the urine.
Is-o-lā'ted—Standing alone; detached from others.
Itch—A contagious eruption of the skin, caused by the itch-mite.
-itis—A combining form denoting inflammation, as gastr*itis*, inflammation of the stomach.

J

Jaun'dice—A disease caused by the inactivity of the liver.
Ju'gu-lar—Belonging to the throat, as the *jugular* vein.

K

Kid'neys—Two organs which secrete the urine.

L

Lā'bi-al—Of or pertaining to the lips.
Lac-tis—Milk.
Lam'i-na—A thick scale or sheet; a layer or coat over another, as in bone.
Lap'pa—Burdock.
Lar'ynx—The upper part of the throat.
Las-civ'i-ous—Lustful; lewd.
Las'si-tude—Weakness; a feeling of languor.
Lat'er-al—Pertaining to the side.
Lax—Not firm or rigid; loose.
Lax'a-tive—A medicine that relaxes the bowels; a gentle purgative.
Lep-tan'dra—Culver's physic, or root.
Lē'sion—An injury; a hurt.
Leth'ar-gy—Stupor; coma; unnatural sleep.
Leu-cor-rhē'a—Catarrh of the vagina, causing a discharge of a greenish-white mucus; whites.
Lewd—Morally depraved; low; vicious; wicked; given to licentiousness.
Lib'er-tine—One who disregards morals, social or religious restraint; a rake.
Lig'a-ment—A strong, tendinous band of fibrous tissue closely binding one bone to another at the joints.
Lig'a-ture—A thread, usually of silk or catgut, tied around a blood-vessel to arrest bleeding or for removing a tumor.
Lim'nois cor'tex—Lemon-peel.
Lim-nois suc'cus—Lemon-juice.
Lin'gua—The tongue.
Lin'um—Flaxseed.
Li'quor cal'ces—Lime-water.
Lith-ot'o-my—The operation of removing stones from the bladder by incision into the organ.
Liv'id—Dark colored; black-and-blue; the ashy hue of death.
Lobe—The round, projecting part of an organ, as the *lobe* of the ear.
Lō'cal—Confined to a particular place or organ, as a *local* pain.
Loin—Lower part of the back.
Lo'tio—Lotion.
Lō'tion—A preparation for washing sores and the like.
Lū'bri-cāte—To soften with oil, or to moisten with fluid.
Lum-bā'go—Rheumatism of the loins.
Lymph (limf)—A thin, colorless fluid carried in small vein-like vessels.
Lym-phat'ics—Vein-like vessels containing the lymph and carrying it back into the blood.

M

Mal—A combining form signifying *bad*, as *mal*formation.

Ma-lā'ri-a—Bad air or gas, causing disease; the disease itself.

Mal''for-mā'tion—Bad formation; deformity.

Ma-lig'nant—So aggravated or intense as to threaten life; virulent.

Mam'ma—The female breast; the milk-secreting organs of mammals.

Mam-mā'li-a—The highest form of animals, man being the head.

Mar'i-tal—Pertaining to marriage relation; matrimonial.

Mar'i-tal ex-cess'—Too much sexual intercourse.

Mar'i-tal rights—Rights due a husband by virtue of the marriage relation.

Mas-sage' (mäs-sazh')—A system of remedial treatment consisting of manipulations of the body by pressure, kneading, slapping and rubbing the muscles.

Mas-ti-cā'tion—The act of chewing.

Mas-tur-bā'tion—Excitement by the hands of the genital organs.

Ma-ter'nal—Of or pertaining to a mother or motherhood.

Ma-ter'ni-ty—The condition of being a mother.

Ma-tē'ri-a med'i-ca—That branch of the science of medicine which treats of the curative agents and their effects.

Mā'trix—The womb.

Mat-u-rā'tion—The formation of pus; coming to a head, as of a boil.

Ma-tū'ri-ty—Full growth; ripeness.

Me-ā'tus—A conspicuous passage or canal, as the urethral *meatus.*

Me-cō'ni-um—The first passage of a new-born babe.

Mē'di-an—Middle, as the *median* line.

Med-i-cā'ted—Having medicine in its composition.

Me-dic'i-nal—Of or pertaining to medicine, or having healing qualities.

Mel—Honey.

Mem'brane—A thin, skin-like lining.

Men'sēs—The monthly flow from the womb.

Mī'crobe—A microscopic organism, the cause of decay, fermentation and various infectious diseases.

Mid'wife—A woman who makes a business of assisting at childbirth.

Milt—The sperm of a male fish.

Min'ī-mum—The smallest, as of a dose of medicine; the opposite of maximum.

Mon-ō-del'phi-a—A sub-class of mammals, as the kangaroo.

Mor'bid—Not healthy; diseased.

Mor-phi'na—Morphine.

Mort-i-fi-cā'tion—The act of destroying organic tissue.

Mū'cus—The substance which moistens the lining of all cavities of the body having an external opening.

Mus'cle—The motion-producing fibers of the body of all animals, known as lean meat.

N

Nar-cot'ic—A medicine relieving pain and producing sleep.
Nā'sal—Pertaining to the nose.
Nau'se-a—Sickness of the stomach.
Na'vel—The scar at the center of the abdomen.
Nec-rō'sis—The death of a part of the body; mortification, gangrene.
Neph-rī'tis—Inflammation of the kidneys.
Nerv'ine—That which will allay or soothe nervous excitement.
Nerv'ous—Easily excited or startled.
Neu-ral'gi-a—An acute pain of the nerve without fever.
Nī'gra—Black, as sinapis *nigra*, black mustard.
Nip'ples—The cone-shaped process of the breast of the female, as a medium through which milk is given off.
Noc-tur'nal—Occurring in the night.
Nōdes—Hard knots or swellings which form around inflamed joints; a firm tumor on a bone or tendon.
Nor'mal—According to an established or healthy rule or principle.
Nos'trum—A quack medicine.
Nox'ious—Causing or tending to cause injury, especially as to health.
Nu-cle'o-lus—A central granule or spot within a nucleus.
Nu'cle-us—A central point or part about which matter gathers or grows.
Nup'tial—Pertaining to marriage.
Nū'tri-ent—A nutritious article of food.
Nū'tri-ment—That which nourishes.
Nu-tri'tion—The process by which growth is promoted and waste repaired.
Nu-tri'tious—Promoting the growth of the body.
Nux vom'i-ca—A plant from which strychnine is obtained; a poisonous medicine taken in minute doses.

O

O-bes'i-ty—Morbid corpulence; excess of fat or flesh.
Ob-lit-er-ā'tion—The closing up of a cavity or passage of the body by the uniting of its walls.
Ob-scure'—Not easily understood; hidden, as an *obscure* symptom.
Ob-stet'rics—That branch of medical science concerning women during pregnancy and parturition.
Oc-clū'sion—The closing up of an opening, pore, passage or cavity.
Oc'u-list—One skilled in the treatment of the diseases of the eye.
Oc'u-lus—The eye.
O-le-ag'i-nous—Pertaining to oil; oily
Ō'le-um—Latin for oil.
Ō'le-um ad-i-pis—Lard oil.

Ō'le-um cin-na-mo'ni—Oil of cinnamon.
Ō'le-um mor-rhuæ—Cod-liver oil.
Ō'le-um olivæ—Olive oil.
Ō'le-um ri-ci-ni—Castor oil.
Ō'le-um tig-lii—Croton oil.
Oph-thal'mi-a—Inflammation of the eye or its lids and membranes.
Ō'pi-ate—Consisting of or combining with opium; tending to induce sleep.
Ō'pi-i—Of opium.
Ō'pi-um—A milky product of the poppy; a narcotic.
Op'tic nerve—The special nerve of vision.
Or-gan'ic—Pertaining to or affecting the organs of the body, as an *organic* disease.
Or'gan-ism—Any life composed of or acting by means of organs.
Or'gasm—Extreme excitation of an organ; especially the height of venereal excitement in coition.
Or'i-fice—An opening into any passage.
Or'i-gin—That end or head which adheres to the most fixed part, as opposed to that which adheres to the movable part, as the *origin* of a muscle or nerve.
Os—The mouth, as of the womb.
Os'se-ous—Bony.
Os-si-fi-cā'tion—Formation of bone; change of tissue into bony substance.
Os-tal'gi-a—Pain in the bones.
Os-te-ō'ma—The tumor of a bone.
Os-tī'tis or os-te-ī'tis—Inflammation of bone.
Ȯ-tī'tis—Inflammation of the mucous membrane of the ear; earache.
Ō'va-ry—The organ of the female that gives rise to the ovum.
Ō-vip'a-rous—Animals producing eggs that mature and are hatched *outside* of the body, as the common bird.
Ō-vu-lā'tion—The formation and discharge of ova, or eggs.
Ō'vum—An egg; ova, eggs.
Ŏx'y-gen—One of the free elements composing the air.

P

Pab'u-lum—Food; aliment.
Pal'ate—The roof of the mouth; the sense of taste.
Pal'li-a-tive—Affording relief only.
Pal'lor—Paleness.
Pal-pi-tā'tion—Unnatural beating of the heart.
Pal'sy—Paralysis; loss of sensation or of movement.
Pan-a-cē'a—A remedy professing to cure all diseases; a cure-all.
Pa-ral'y-sis—Loss or partial loss of muscular power or of nervous sensation; palsy.
Par'a-site—An animal that lives on other animals, as a louse.
Par-a-sit'ic—Relating to, or of the nature of, or caused by parasites.

Par'ox-ysm—A periodic attack of a disease; a fit or convulsion of any kind.
Par-tu-ri'tion—The act of bringing forth young; child-birth.
Path-ō-log'ic-al—Pertaining to pathology.
Pa-thol'ō-gy—That branch of medical science which treats of morbid or diseased conditions, their causes, symptoms, nature, physiology and anatomy.
Pec'to-ral—Pertaining to the breast or thorax, as the *pectoral* muscles.
Pel'vis—The bony cavity at the lower part of the trunk of man.
Pen'du-lous—Hanging as a pendulum.
Pe'po—Pumpkin seed.
Pep'sin (*Latin*, pep'sin-um)—The substance of the stomach which aids in the digestion of the food.
Per-co-la'tion—The process of drawing a liquid through some substance.
Per-i-car'di-um—The sac containing the heart.
Per-i-nē'um—The entire region at the outlet of the pelvis; space between anus and vulva.
Pe-ri-ō-dic'i-ty—The quality of being periodic, as of some fevers.
Per-i-os'te-um—The membrane which covers and nourishes all the bones.
Per-i-stal'tic—Pertaining to the worm-like motion of the intestines.
Per-i-to-nē'um—The membrane that lines the abdominal cavity.
Per-i-to-nī'tis—Acute inflammation of the peritoneum.
Per-ver'sion—An unhealthy change; turning from the healthful to the injurious.
Pes'sa-ry—An instrument for supporting the womb.
Phar-ma-ceu'tic-al—Pertaining to the art of preparing medicines.
Phar-ma-ceu'tist—One skilled in the art of compounding medicines.
Phar'ma-cy—The art of compounding drugs for use as medicine.
Phlegm (flem)—Mucus from the bronchial tubes and throat.
Phlo-gis'tic—Presenting an inflamed appearance; inflammatory condition.
Phthī'sis (thī'sis)—Tuberculosis of the lungs; pulmonary consumption.
Phys-i-o-log'ic-al—Relating to the science of proper living in health.
Piles—Tumors at, or near, or in the anus; hemorrhoids.
Pī'per—Black pepper.
Pix liq.—Tar.
Pla-cen'ta—The organ by which the fetal blood and the maternal blood are brought together; the after-birth.
Pleth'ō-ra—A state of excessive fulness; abnormal fulness; too much blood.
Ple-thor'ic—Fleshy; full of blood.
Pleu'ra (plu'ra)—The membrane covering the lungs.
Pleu'ri-sy—Inflammation of the pleura; pleuritis.

Pneu-mō'ni-a (new-mō'ni-a)—Inflammation of the lung tissue.

Pod-o-phyl'lin(*or*-lum)—May apple; used as a purgative medicine.

Point'ing—The thinning of the walls of an abscess at the point where it threatens to break.

Pol'y-pus—A pear-shaped tumor in a cavity of the body.

Pos-tē'ri-or—Behind in position.

Po-tas'si-i (*or* -ium)—A bluish-white lustrous metal having a strong affinity for oxygen with which it forms potash.

Po-tas-si-i bi-tar'tras—Cream of tartar.

Pot. et sodii tartras—Rochelle salts.

Pot. ni'tras—Saltpetre.

Pre-cur'sor—Forerunner; that which indicates the approach of disease or any event in its course.

Prē-dis-posed'—To make liable or susceptible, as an inherited weakness.

Prē-dis-pō-si'tion—A tendency to a disease.

Preg'nan-cy—The condition of being with child.

Prē-nā'tal—Before birth.

Pres-en-tā'tion—The position of the fetus or child at birth; that part that is first presented at birth.

Proc'ess—An outgrowth or eminence; the projecting part, as of a bone.

Prō'cre-ate—To beget; to produce by generation.

Prog-nō'sis—Prediction relating to the future course and final termination of any case of disease.

Pro-lap'sus—The falling down of an organ from its normal position.

Prop'a-gate—To multiply by generation; to spread, as a disease.

Pros'tate gland—A gland at the base of the bladder in man.

Pros-tat'ic—Relating to the prostate gland.

Pros-trā'tion—A great temporary depression of the bodily functions.

Pros'ti-tute—A woman who practices indiscriminate lewdness for hire; a harlot.

Pros-ti-tū'tion—The business of a prostitute.

Prō'to-plasm—The viscid, contractile, semi-liquid, more or less granular substance that forms the principal portion of an animal or vegetable cell.

Prude—A person, especially a woman, who makes an exaggerated and often affected display of modesty.

Pru'der-y—The state or quality of being prudish, or a prude.

Pru'nus Virginiana—Wild cherry.

Pru-rī'tis—A skin disease causing intense itching.

Psō'ra (sō'ra)—The itch or some similar disease of the skin.

Psy-chol'o-gy (sī-)—The science of the human mind or soul, and its operations.

Pu'ber-ty—The age at which persons of either sex are capable of begetting children.

Pū'bēs—The lower part of the abdomen which is covered with hair at the age of puberty.

Pu-er'per-al—Pertaining to, connected with, or resulting from child-birth, as *puerperal* fever.

Pul'mō-nā-ry—Pertaining to the lungs.
Pul'vis—Powder, as *Pulvis* Ip. et Opii, meaning Dover's Powder.
Pū'pil—The dark circle in the eye.
Pur'ga-tive—A medicine that causes evacuation of the bowels; a strong laxative.
Pu'ru-lent—Consisting of pus.
Pus—A secretion from inflamed tissue, as sores, abscesses, etc.
Pus'tule—A small elevation of the skin containing pus.
Pu'trid—Decomposed; decayed.
Pu-tre-fac'tion—Decomposition of animal or vegetable matter.
Py-ē'mi-a—Blood poisoning, produced when pus is absorbed into the system and mingles with the blood.
Py-lō'rus—The lower opening of the stomach.

Q

Q. s. ad—Add quantity sufficient to make.
Quar'tan—Occurring every fourth day.
Quick'en-ing—The motion, or the first occurrence of the sensation a pregnant woman has of the motion of the child in the womb.
Quī-es'cent—Not moving; still.
Quo-tid'i-an—Occurring every day.

R

Rad'i-cal—A permanent cure.
Rā'di-us—One of the bones of the arm.
Rā'dix—A root or root-like part.
Ram'i-fy—To divide or subdivide into branches.
Rash—A skin eruption showing redness with but little elevation of the scarf-skin, as in scarlet fever.
Rats-bane—Rat-poison; arsenic.
Re-ces'sion—Striking in of the blood, or disease going to the internal organs.
Rec-re-ā'tion—Refreshment of mind and body after toil; rest.
Rec'tum—The lower portion of the intestines.
Re-cū'per-ate—Recovering of lost power.
Re-duc'tion—An operation for restoring fractures or displaced parts to their normal position, as the *reduction* of hernia.
Reg'i-men—A regulated order or course of living with reference to food, clothing and personal habits for the sake of health.
Re-lapse'—Return of a disease after an improved condition.
Re-lax-ā'tion—Losing the healthy tone of any part, or of the whole system.
Re-mis'sion—Abatement of the violence of a disease or pain.
Rē'nal—Pertaining to the kidneys.
Re-pro-duc'tion—Procreation; generation; formation of a new organism.
Re-sid'u-al—Remaining as dregs or sediment after a part is taken.

Res-o-lū'tion—The breaking up, termination or disappearance of disease.
Res-pi-rā'tion—The act of breathing.
Re-sus-ci-tā'tion—The act of reviving from insensibility or apparent death.
Retch'ing—An effort to vomit.
Re-ten'tion—Delay in the natural passage of the urine or feces.
Rheum'a-tism—Inflammation of the fibrous tissues, mostly confined to the large joints.
Rig'id—Unyielding; inflexible; stiff.
Rig'or—The condition of being stiff or rigid, as the *rigor* of death.
Rig'or mor'tis—The rigor of death.
Rhe'um—Rhubarb.
Ru'bus—Blackberry.
Ru'bus Ideus—Raspberry.
Ru'mex—Yellow dock.
Rup'ture—Hernia; also a breaking, as of a blood-vessel.

S

Sac—A bag or membranous envelope for any liquid or solid substance.
Sac'cha-rin (sak'ka-rin)—Having the properties of sugar; a substance.
Sac'cha-rum—Sugar.
Sā'line—Having the qualities of salt.
Sa-lī'va—Secretions of the mouth.
Sa-lū'bri-ous—Favorable to health.
Sal'vi-a—Sage.
San'a-tive—Curative; healing; healthful.
San-gui-nā'ria—Bloodroot.
San'guine—Abundance and activity of blood.
San-guin'e-ous—Bloody.
Scā'bi-ēs—The itch; the itch-mite.
Scī-at'ic-a—Neuralgia of the hip and thigh; inflammation of the sciatic nerve.
Scī-at'ic—Pertaining to the hips.
Scrof'u-la—Constitutional tendency to diseases of the glands of the body.
Scrō'tum—The sac which encloses the glands testes.
Se-bā'ceous—Having fatty secretions.
Se-crē'tion—The act of separating by vital process certain substances from the blood.
Se'cret sin—Masturbation.
Sed'a-tive—Quieting; soothing; the opposite of stimulating.
Sed'en-tā-ry—Sitting; inactive.
Self-abuse—Self-pollution; masturbation.
Sē'men—The generative fluid of the male; milt.
Sem'i-nal—Pertaining to the seed or germ, as the *seminal* fluid.
Sep-ti-cē'mi-a—A poisoning of the blood from putrid matter.

Sē'quel—That which follows as the result of a disease; its consequences.
Sē'rous—Watery, as the *serous* membrane that gives off the serum.
Sē'rum—The watery fluid of the blood and of the serous membrane.
Sex'u-al—Pertaining to the two sexes; generative; genitals; venereal.
Si-nā'pis—Mustard.
Si-nā'pism—Flour of mustard and vinegar mixed and applied as a counter-irritant.
Sī'nus—A cavity or canal in any part of the body.
Sitz bath—Bath in a sitting position, in which the hips only are in the hot water.
Slough (sluf)—The dead part which separates from the living tissue in a sore or wound.
Sō'di-i bō'ras—Borax.
Sō-pō-rif'ic—Causing or tending to produce sleep.
Spasm—Cramp or convulsions, as of the whole body.
Spē-cif'ic—A remedy having a definite, peculiar, uniform action, as quinine is a *specific* for malaria.
Sperm—Seminal fluid; the semen.
Sper-ma-tor-rhē'a—Seminal discharge without voluntary sexual excitement.
Sper-ma-to-zō'on—One of the living elements in semen; one of the male fertilizing elements; *plural form*, sper-ma-to-zō'a.
Sphinc'ter (sfink-)—A muscle that surrounds an opening or tube and serves to close it at will, as at the anus.
Spine—The back-bone.
Spir'i-tus—Spirit, as alcohol.
Spiritus cam-phō'ræ—Spirits of camphor.
Sp. frumen'ti—Whisky.
Sp. vini—Brandy.
Squa'mous—Scale-like.
Ster-il'i-ty—Barrenness; having no reproductive power.
Ster'num—The breast-bone.
Stim'u-lant—A medicine that excites an increased and healthful action.
Stitch—A spasmodic pain.
Sto-mā'tī-tis—Inflammation of the stomach.
Strict'ure—A contracted condition of some tube or duct, as the urethra and the like.
Stran-gu-lā'tion—Having the circulation stopped in any part of the body by mechanical means, as the intestines in hernia.
Sub-a-cute—Mild; not severe.
Styp'tic—A substance causing contraction of living tissue, hence efficient in stopping bleeding.
Su-dor-if'ic—Inducing sweat; from *su'dor*, sweat.
Su-i-cī'dal—Tending toward voluntary self-destruction.
Su-per-fi'cial—On the surface; not deep; on the outside.
Su-pē'ri-or—High as to place; upper.

Sup-pu-rā'tion—A gathering of matter in a wound or abscess; pus-forming.
Symp'toms—The signs which point out a disease; a guide to diagnosis.
Syn'co-pe—Sudden faintness; a fainting fit; swooning.
Syph'i-lis—A specific, infectious, venereal disease communicated by direct contact with the virus; it is also hereditary.

T

Ta-ba'cum—Tobacco.
Ta-rax'a-cum—Dandelion.
Tam'pon—A plug of lint or cotton placed in a wound or natural cavity to stop hemorrhage or to apply medicine.
Tem'per-a-ment—A type of mental character, as the nervous *temperament.*
Te-nes'mus—Difficulty and pain at stool, with a desire to go to stool often.
Ter-e-bin-thī'na—Turpentine.
Tes'ti-cles—One of the glands that secrete semen.
Ther-a-peu'tics—The department of medical science which relates to the treatment of diseases.
Thō'rax—The chest.
Tib'i-a—The large bone of the lower leg.
Tinc'ture—A solution, usually alcoholic, of some principle used in medicine, as the *tincture* of iodine.
Tin. Opii—Laudanum; tincture of opium.
Tin. Opii Cam-pho-ra'ta—Paregoric; tincture of opium and camphor.
Ton'ic—A medicine that gives strength.
Ton'sil—An oval lymphoid organ situated on either side of the throat.
Tra'che-a—The wind-pipe.
Trau-mat'ic—Resulting from injuries.
Trit'u-rate—The process of grinding to fine powder by rubbing in a mortar.
Tu'mor—A morbid enlargement of any part of the body.
Tym'pan-um—The middle ear.

U

Ul-cer-ā'tion—The formation of an ulcer or of an open sore.
Um-bil'ic-al cord—The rope-like structure that passes from the fetus to the placenta, or that unites the mother-life with that of the unborn child.
U-rē'a—The essential part of the urine.
U-rē'ter—The duct leading into the bladder from the kidneys.
U-rē'thra—The duct leading from the bladder as the exit of the urine.
U'rine—The secretion of the kidneys.
U'ter-us—The womb.

V

Va-gī'na—The passage from the womb to the vulva.
Vas'cu-lar—Consisting of vessels.
Vē'na cā'va—The large vein next to the heart.
Ve-nē're-al—Pertaining to or proceeding from sexual intercourse.
Vē'nous—Pertaining to the veins.
Ven-til-ā'tion—The process of causing a free circulation of the air in a building.
Ven'tri-cle—One of the chambers of the heart.
Verm'i-form—Worm-like.
Ver'mi-fūge—A medicine to kill and expel worms.
Ver'ti-go—Dizziness.
Ves'i-cle—A little bladder; a blister.
Vil'li—Small elevations of a velvety appearance on animal membranes, as the *villi* of the small intestines.
Vī'num—Wine.
Vir'u-lent—Exceedingly severe, as a *virulent* fever.
Vī'rus—Containing poison.
Vol'a-tile—Diffusive; evaporating rapidly
Vul'va—Outer lips of the vagina.

W

Womb—The organ in woman which conceives and nourishes the unborn child.

Z

Zē'a—Corn silk.
Zin'cum—Zinc.
Zin'gi-be—Ginger.

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*Thirty-two pages are here added to folio number to include colored plates and other illustrations not previously paged.

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